



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 164720**

**TO: Lori A Clow**  
**Location: REM/2D64/2C70**  
**Art Unit: 1631**  
**Thursday, September 08, 2005**  
**Case Serial Number: 09/931048**

**From: John DiNatale**  
**Location: Biotech-Chem Library**  
**REM-1B65**  
**Phone: (571)272-2557**

**[john.dinatale@uspto.gov](mailto:john.dinatale@uspto.gov)**

### **Search Notes**

Examiner Clow,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

John DiNatale  
Technical Information Specialist  
STIC Biotech/Chem Library  
(571)272-2557

*This Page Blank (uspto)*



# STIC SEARCH RESULTS FEEDBACK FORM

## Biotech-Chem Library

Questions about the scope or the results of the search? Contact ***the searcher or contact:***

Mary Hale, Information Branch Supervisor  
Remsen Bldg. 01 D86  
571-272-2507

## Voluntary Results Feedback Form

➤ I am an examiner in Workgroup:  Example: 1610

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC-Biotech-Chem Library Remsen Bldg.



*This Page Blank (uspto)*



# CAPLUS Results for the structure "L44". Specific Structures that fulfill Claim 190 are tabbed.

Clow 09\_931048

09/08/2005

=> file registry

FILE 'REGISTRY' ENTERED AT 15:47:09 ON 08 SEP 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 7 SEP 2005 HIGHEST RN 862646-13-7

DICTIONARY FILE UPDATES: 7 SEP 2005 HIGHEST RN 862646-13-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

```
*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
*****
```

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file caplus

FILE 'CAPLUS' ENTERED AT 15:47:13 ON 08 SEP 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 8 Sep 2005 VOL 143 ISS 11

FILE LAST UPDATED: 7 Sep 2005 (20050907/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate

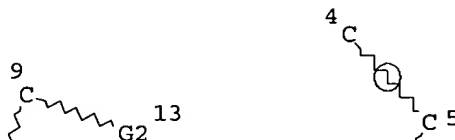
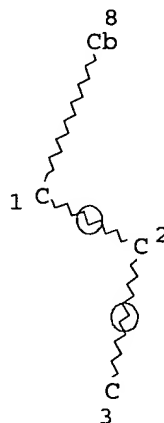
substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

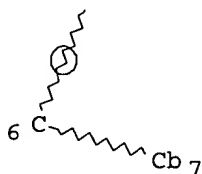
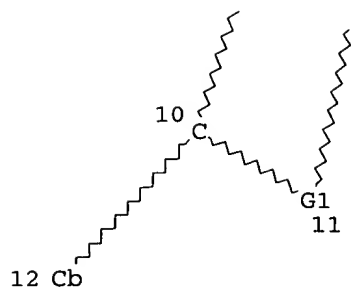
=> d stat que L49

```
L1 (      2730)SEA FILE=REGISTRY ABB=ON  PLU=ON  SEC5/ESS
L2 (    1314092)SEA FILE=REGISTRY ABB=ON  PLU=ON  OC5/ESS
L3 (      76819)SEA FILE=REGISTRY ABB=ON  PLU=ON  SC5/ESS
L4 (      1054)SEA FILE=REGISTRY ABB=ON  PLU=ON  TEC5/ESS
L5 (    1391657)SEA FILE=REGISTRY ABB=ON  PLU=ON  L1 OR L2 OR L3 OR L4
L6 (      571105)SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 AND NRS>2
L7              STR
```

O 14 S 15 Se 16Te 17



Page 1-A



Page 2-A

VAR G1=14/15/16/17

VAR G2=1-9 3-11/4-9 6-11

NODE ATTRIBUTES:

```
NSPEC  IS R      AT   1
NSPEC  IS R      AT   2
```

NSPEC IS R AT 3  
NSPEC IS R AT 4  
NSPEC IS R AT 5  
NSPEC IS R AT 6  
NSPEC IS C AT 7  
NSPEC IS C AT 8  
NSPEC IS R AT 9  
NSPEC IS R AT 10  
NSPEC IS R AT 11  
NSPEC IS C AT 12  
NSPEC IS R AT 13  
DEFAULT MLEVEL IS ATOM  
MLEVEL IS CLASS AT 1 2 3 4 5 6  
DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RSPEC I

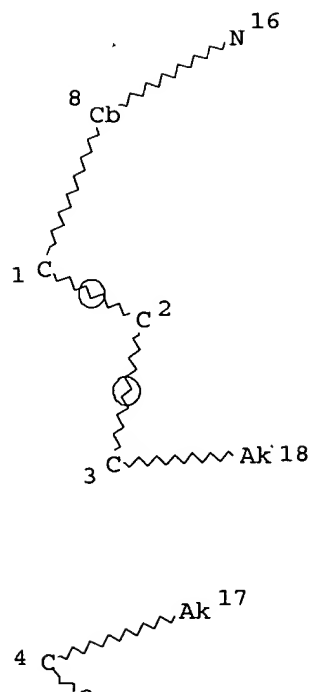
NUMBER OF NODES IS 17

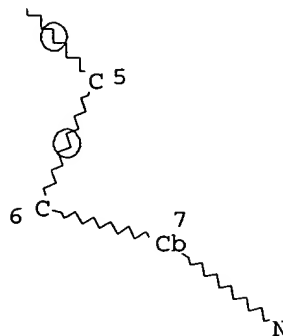
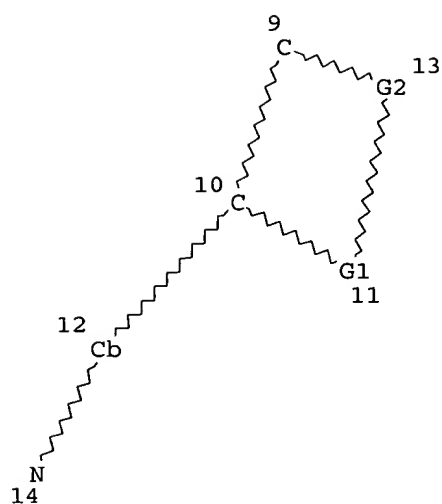
## STEREO ATTRIBUTES: NONE

L8 11587 SEA FILE=REGISTRY SUB=L6 SSS FUL L7

L44 STR

O 19 S 20 Se 21Te 22





Page 2-A

15

Page 2-B

VAR G1=19/20/21/22

VAR G2=1-9 3-11/4-9 6-11

NODE ATTRIBUTES:

NSPEC	IS R	AT	1
NSPEC	IS R	AT	2
NSPEC	IS R	AT	3
NSPEC	IS R	AT	4
NSPEC	IS R	AT	5
NSPEC	IS R	AT	6
NSPEC	IS C	AT	7
NSPEC	IS C	AT	8
NSPEC	IS R	AT	9
NSPEC	IS R	AT	10
NSPEC	IS R	AT	11
NSPEC	IS C	AT	12
NSPEC	IS R	AT	13
NSPEC	IS C	AT	14
NSPEC	IS C	AT	15
NSPEC	IS C	AT	16
NSPEC	IS C	AT	17
NSPEC	IS C	AT	18

CONNECT	IS E3	RC	AT	1
CONNECT	IS E2	RC	AT	2
CONNECT	IS X3	RC	AT	3
CONNECT	IS X3	RC	AT	4
CONNECT	IS E2	RC	AT	5
CONNECT	IS E3	RC	AT	6
CONNECT	IS E2	RC	AT	9
CONNECT	IS E3	RC	AT	10

DEFAULT MLEVEL IS ATOM

MLEVEL IS CLASS AT 1 2 3 4 5 6 14 15 16 17 18

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L48 204 SEA FILE=REGISTRY SUB=L8 SSS FUL L44

L49 51 SEA FILE=CAPLUS ABB=ON PLU=ON L48

=&gt; d ibib abs hitstr L49 1-51

L49 ANSWER 1 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:34970 CAPLUS

DOCUMENT NUMBER: 142:141362

TITLE: Decontamination of biological fluids using  
diphenylpyrilium compounds

INVENTOR(S): Wagner, Stephen J.; Skripchenko, Andrey

PATENT ASSIGNEE(S): American National Red Cross, USA

SOURCE: PCT Int. Appl., 54 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005003719	A2	20050113	WO 2004-US17625	20040604
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.:

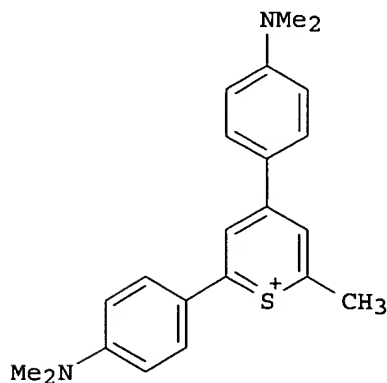
US 2003-475493P

P 20030604

OTHER SOURCE(S):

MARPAT 142:141362

GI



I

AB The present invention affords means for decontaminating biol. fluids such as blood and blood components. The method involves contacting a biol. fluid with a diphenylpyrilium compound, and irradiating the mixture with red light. The method is a potent and effective means for eliminating or diminishing active pathogens such as viruses, bacteria, and parasites, without causing substantial hemolysis or otherwise degrading the storage stability of the decontaminated biol. fluid. Of a number of diphenylpyrilium compds., I inactivated >7 log10 extracellular vesicular stomatitis virus (VSV) and >5log10 of intracellular VSVB without causing undue hemolysis during 42 days at 1-6° storage of red cells suspended in Erythrosol.

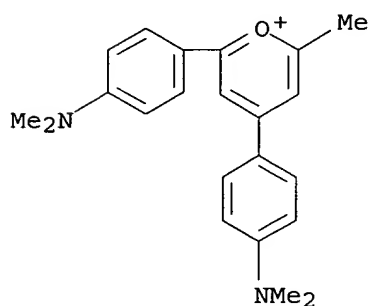
IT 157137-81-0 157137-83-2 823821-14-3  
823821-16-5

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(decontamination of biol. fluids using diphenylpyrilium compds.)

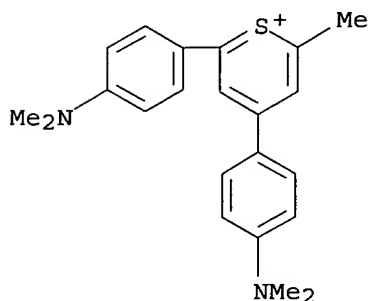
RN 157137-81-0 CAPLUS

CN Pirylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)



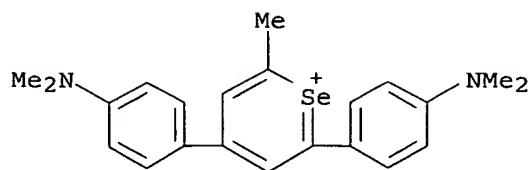
RN 157137-83-2 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)

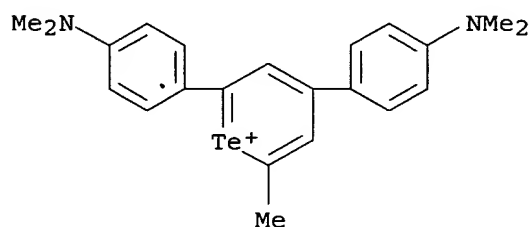


RN 823821-14-3 CAPLUS

CN Seleninium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)



RN 823821-16-5 CAPLUS  
 CN Tellurinium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)



L49 ANSWER 2 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2003:815311 CAPLUS  
 DOCUMENT NUMBER: 139:304166  
 TITLE: Method of spotting probe on solid support, probe array and method of manufacturing thereof, and method of detecting target substance and method of identifying structure of target substance using probe array  
 INVENTOR(S): Okamoto, Tadashi; Yamamoto, Nobuko; Suzuki, Tomohiro  
 PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan  
 SOURCE: Eur. Pat. Appl., 47 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1352976	A2	20031015	EP 2003-76692	19980731
EP 1352976	A3	20031029		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI, CY				
JP 11187900	A2	19990713	JP 1998-209923	19980724
EP 895082	A2	19990203	EP 1998-306107	19980731
EP 895082	A3	19990811		
EP 895082	B1	20030924		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 2002146715	A1	20021010	US 2001-951972	20010914
US 2003059817	A1	20030327	US 2002-219313	20020816
PRIORITY APPLN. INFO.:				
			JP 1997-207837	A 19970801
			JP 1997-287046	A 19971020
			JP 1998-209923	A 19980724
			EP 1998-306107	A3 19980731
			US 1998-126851	A3 19980731

AB Provided is a method of spotting a probe densely and efficiently on a surface of a solid support. A liquid containing a probe is attached to a solid support as droplets to form spots containing the probe on the solid support by an ink jet method.

IT 151921-86-7

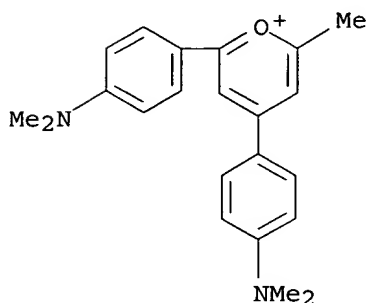
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(method of spotting probe on solid support, probe array and method of manufacturing thereof, and method of detecting target substance and method

of

identifying structure of target substance using probe array)

RN 151921-86-7 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

L49 ANSWER 3 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:807805 CAPLUS

DOCUMENT NUMBER: 141:6860

TITLE: Product class 12: telluropyrylium and benzotelluropyrylium salts

AUTHOR(S): Murphy, P. J.

CORPORATE SOURCE: Germany

SOURCE: Science of Synthesis (2003), 14, 881-895

CODEN: SSCYJ9

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:6860

AB A review. Methods for preparing telluropyrylium and benzotelluropyrylium salts, including aromatization and substituent modification, are reviewed.

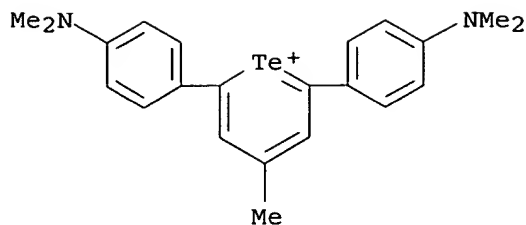
IT 247179-18-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(review of preparation of telluropyrylium and benzotelluropyrylium salts via aromatization and substituent modification methods)

RN 247179-18-6 CAPLUS

CN Tellurinium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, chloride (9CI)  
(CA INDEX NAME)





● Cl<sup>-</sup>

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 4 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:807802 CAPLUS

DOCUMENT NUMBER: 141:23216

TITLE: Product class 10: selenopyrylium and benzoselenopyrylium salts

AUTHOR(S): Murphy, P. J.

CORPORATE SOURCE: Germany

SOURCE: Science of Synthesis (2003), 14, 817-854

CODEN: SSCYJ9

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review. Methods for preparing selenopyrylium and benzoselenopyrylium salts, including cyclization, aromatization and substituent modification, are reviewed.

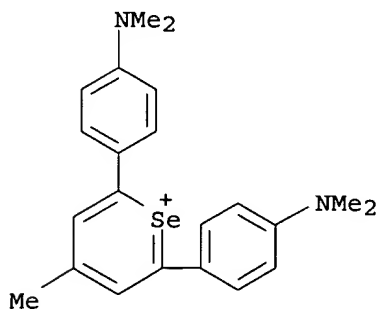
IT 247179-17-5P

RL: SPN (Synthetic preparation); PREP (Preparation)

(review of preparation of selenopyrylium and benzoselenopyrylium salts via cyclization, aromatization and substituent modification methods)

RN 247179-17-5 CAPLUS

CN Seleninium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, chloride (9CI)  
(CA INDEX NAME)

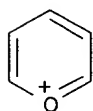


● Cl<sup>-</sup>

REFERENCE COUNT: 112 THERE ARE 112 CITED REFERENCES AVAILABLE FOR

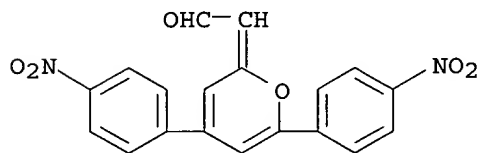
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE  
FORMAT

L49 ANSWER 5 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2003:807787 CAPLUS  
DOCUMENT NUMBER: 141:23350  
TITLE: Product class 1: pyrylium salts  
AUTHOR(S): Balaban, T. S.; Balaban, A. T.  
CORPORATE SOURCE: Germany  
SOURCE: Science of Synthesis (2003), 14, 11-200  
CODEN: SSCYJ9  
PUBLISHER: Georg Thieme Verlag  
DOCUMENT TYPE: Journal; General Review  
LANGUAGE: English  
GI



I

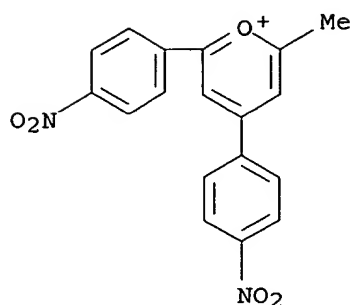
AB A review. Methods of preparing pyrylium (I) salts are reviewed including ring closure, aromatization and substituent modification reactions. An explosion is reported below the melting temperature of a substituted 4-(phenylethynyl)pyrylium perchlorate.  
IT **698363-93-8**  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(for preparation of pyrylium salts via ring closure, aromatization and/or substituent modification reactions)  
RN 698363-93-8 CAPLUS  
CN Acetaldehyde, [4,6-bis(4-nitrophenyl)-2H-pyran-2-ylidene]- (9CI) (CA INDEX NAME)



IT **96683-08-8P**  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(for preparation of pyrylium salts via ring closure, aromatization and/or substituent modification reactions)  
RN 96683-08-8 CAPLUS  
CN Pyrylium, 2-methyl-4,6-bis(4-nitrophenyl)-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

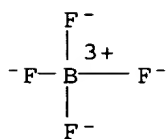
CM 1

CRN 47455-01-6  
CMF C18 H13 N2 O5



CM 2

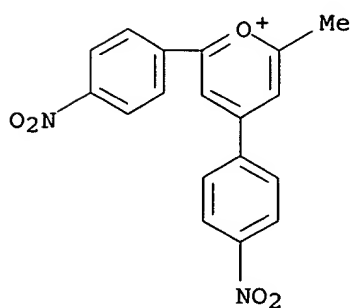
CRN 14874-70-5  
CMF B F4  
CCI CCS



IT 18374-72-6P 59548-17-3P 110673-33-1P  
151921-86-7P 698361-70-5P 698363-22-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of pyrylium salts via ring closure, aromatization and  
substituent modification reactions)  
RN 18374-72-6 CAPLUS  
CN Pyrylium, 2-methyl-4,6-bis(4-nitrophenyl)-, perchlorate (9CI) (CA INDEX  
NAME)

CM 1

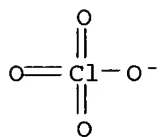
CRN 47455-01-6  
CMF C18 H13 N2 O5



CM 2

CRN 14797-73-0

CMF Cl O4



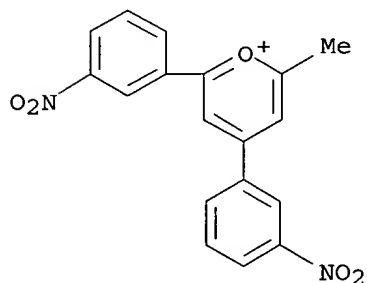
RN 59548-17-3 CAPLUS

CN Pyrylium, 2-methyl-4,6-bis(3-nitrophenyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 59548-16-2

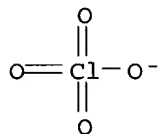
CMF C18 H13 N2 O5



CM 2

CRN 14797-73-0

CMF Cl O4



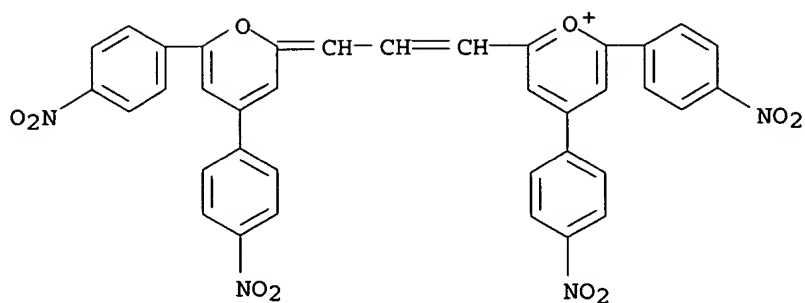
RN 110673-33-1 CAPLUS

CN Pyrylium, 2-[3-[4,6-bis(4-nitrophenyl)-2H-pyran-2-ylidene]-1-propenyl]-4,6-bis(4-nitrophenyl)-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 110673-32-0

CMF C37 H23 N4 O10

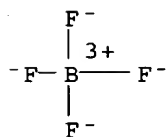


CM 2

CRN 14874-70-5

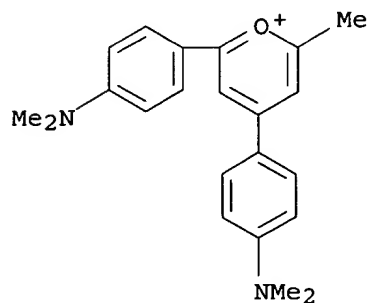
CMF B F4

CCI CCS



RN 151921-86-7 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

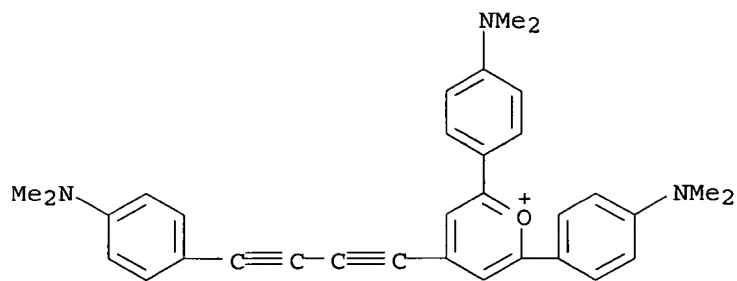
RN 698361-70-5 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 698361-69-2

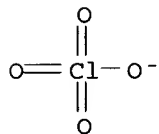
CMF C33 H32 N3 O



CM 2

CRN 14797-73-0

CMF Cl O4



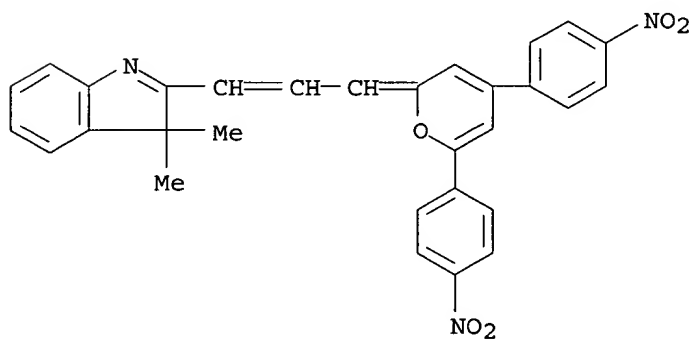
RN 698363-22-3 CAPLUS

CN 3H-Indole, 2-[3-[4,6-bis(4-nitrophenyl)-2H-pyran-2-ylidene]-1-propenyl]-3,3-dimethyl-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 698363-21-2

CMF C30 H23 N3 O5

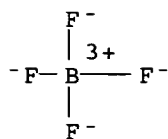


CM 2

CRN 16872-11-0

CMF B F4 . H

CCI CCS



● H<sup>+</sup>

REFERENCE COUNT: 430 THERE ARE 430 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L49 ANSWER 6 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:711910 CAPLUS

DOCUMENT NUMBER: 139:221589

TITLE: Electrophotographic photoreceptor containing high molecular weight compound from DNA, process cartridge, and electrophotographic imaging device

INVENTOR(S): Miura, Daisuke; Toshida, Yoshi

PATENT ASSIGNEE(S): Canon Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003255573	A2	20030910	JP 2002-56014	20020301
PRIORITY APPLN. INFO.:			JP 2002-56014	20020301

AB Title photoreceptor is characterized by containing an organic solvent-soluble high mol. weight compound from DNA and a pyrylium dye in its photosensitive layer, where the compound from DNA the pyrylium dye is connected through a mol. bond. A process cartridge and an imaging device using the photoreceptor are also claimed.

IT 157137-82-1  
RL: MOA (Modifier or additive use); USES (Uses)  
(electrophotog. photoreceptor containing DNA and pyrylium dye)

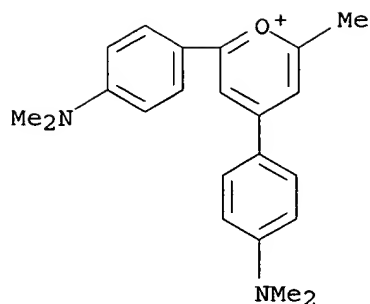
RN 157137-82-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 157137-81-0

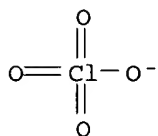
CMF C22 H25 N2 O



CM 2

CRN 14797-73-0

CMF C1 04



L49 ANSWER 7 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:160169 CAPLUS

DOCUMENT NUMBER: 136:229065

TITLE: Method for detecting/quantitating nucleic acid by probe hybridization and dry fluorometry in microarray application

INVENTOR(S): Yamamoto, Nobuko; Okamoto, Hisashi; Suzuki, Tomohiro

PATENT ASSIGNEE(S): Canon Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002065275	A2	20020305	JP 2000-263507	20000831
PRIORITY APPLN. INFO.:			JP 2000-263507	20000831

AB A method is provided for detecting/quantitating a multiple-stranded nucleic acid possessing a specific base sequence using a fluorescent dye by dry fluorometry. The method comprises the following steps: (a) a fluorescent dye capable of emitting fluorescence or enhancing fluorescence in the presence of the multiple-stranded nucleic acid, and maintaining the fluorescence emission in a dry state is added to a sample solution as an object for detection or quantitation. (b) A known amount of the sample solution to which the fluorescent dye has been added is placed on a clean baseplate, and is dried. (c) The fluorescence from the dried sample is measured, and the multiple-stranded nucleic acid in the sample solution is detected/quantitated based on the measurement results obtained. Provided is a method of attaching oligonucleotide probes to a solid support with



high d. and efficiency in matrix or array format for microarray application using a reaction between maleimido group on the glass plate and thiol group on the oligonucleotide. Maleimido group can be introduced by first introducing an amino group to the glass substrate and reacting it with succinimidyl-4-(p-maleimidophenyl)butyrate. Oligonucleotides are attached to the glass substrate by reaction of their amino group with the epoxy group of the glass substrate. Samples are spotted by ink-jet method. Determination of nucleic acid by detecting PCR amplification product using a fluorescent intercalator, 2-methyl-4,6-bis(4-N,N-dimethylaminophenyl)pyrylium iodide (P2), which does not fluoresce in the free state but shows strong fluorescence when reacted with dsDNA ( $\lambda_{\text{ex}}$  580 nm,  $\lambda_{\text{em}}$  640 nm), in proportion to the amount of dsDNA, and its derivative, is presented. The use of P2 enables precise and selective detection of the amplification product of PCR reactions, by adding the dye compound directly to a PCR reaction mixture without separating

the

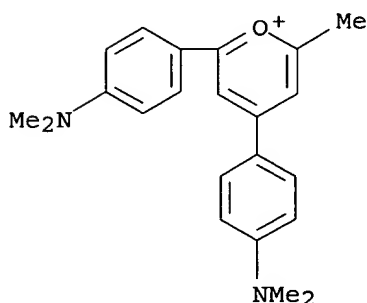
amplification product from the primers and template nucleic acid.

IT 151921-86-7 321351-91-1, 2-(3-Carboxypropyl)-4,6-bis(4-N,N-dimethylaminophenyl)pyrylium 321351-95-5

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (attaching nucleic acid probes to a solid support via maleimido-thiol reaction for microarray application)

RN 151921-86-7 CAPLUS

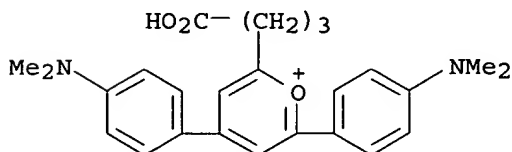
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

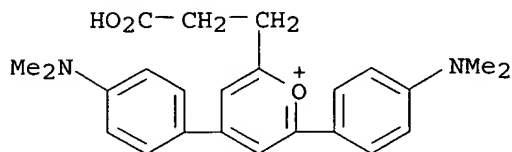
RN 321351-91-1 CAPLUS

CN Pyrylium, 2-(3-carboxypropyl)-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 321351-95-5 CAPLUS  
 CN Pyrylium, 2-(2-carboxyethyl)-4,6-bis[4-(dimethylamino)phenyl]-, iodide  
 (9CI) (CA INDEX NAME)



● I<sup>-</sup>

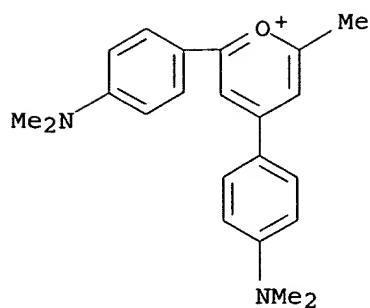
L49 ANSWER 8 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:98571 CAPLUS  
 DOCUMENT NUMBER: 134:158453  
 TITLE: Method for detecting/quantitating multiple-stranded nucleic acid by dry fluorometry  
 INVENTOR(S): Okamoto, Hisashi; Suzuki, Tomohiro; Yamamoto, Nobuko  
 PATENT ASSIGNEE(S): Canon Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001033440	A2	20010209	JP 1999-210702	19990726
US 2002068282	A1	20020606	US 2001-764050	20010119
PRIORITY APPLN. INFO.:			JP 1999-210701	A 19990726
			JP 1999-210702	A 19990726

AB A method is provided for relieving the restriction in a measuring container, the radiation direction and the lowest limit of sample liquid quantity upon detecting/quantitating a multiple-stranded nucleic acid possessing a specific base sequence using a fluorescent dye by dry fluorometry. The method comprises the following steps: (a) a fluorescent dye capable of emitting fluorescence or enhancing fluorescence in the presence of the multiple-stranded nucleic acid, and maintaining the fluorescence emission in a dry state is added to a sample solution as an object for detection or quantitation. (b) A known amount of the sample solution to which the fluorescent dye has been added is placed on a clean baseplate, and is dried. (c) The fluorescence from the dried sample is measured, and the multiple-stranded nucleic acid in the sample solution is detected/quantitated based on the measurement results obtained.

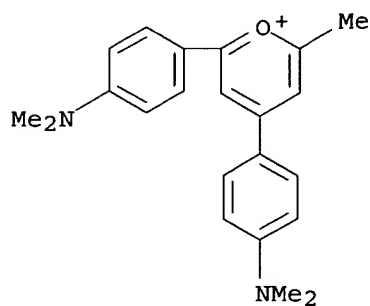
IT 151921-86-7 157137-81-0  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method for detecting/quantitating target nucleic acid by dry fluorometry)

RN 151921-86-7 CAPLUS  
 CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 157137-81-0 CAPLUS  
 CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)



L49 ANSWER 9 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:98570 CAPLUS  
 DOCUMENT NUMBER: 134:158452  
 TITLE: Method for detecting/quantitating target nucleic acid by dry fluorometry  
 INVENTOR(S): Okamoto, Hisashi; Suzuki, Tomohiro; Yamamoto, Nobuko  
 PATENT ASSIGNEE(S): Canon Inc., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001033439	A2	20010209	JP 1999-210701	19990726
US 2002068282	A1	20020606	US 2001-764050	20010119
PRIORITY APPLN. INFO.:			JP 1999-210701	A 19990726
			JP 1999-210702	A 19990726

AB A method is provided for relieving the restriction in a measuring container, the radiation direction and the lowest limit of sample liquid

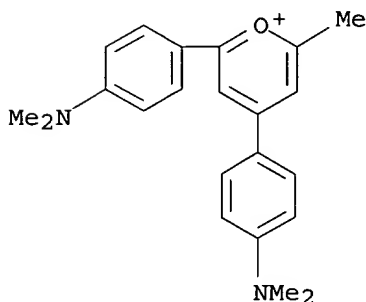
quantity upon detecting/quantitating a target nucleic acid by dry fluorometry. The method comprises the following steps: (a) a hybrid is formed on a clean solid phase baseplate for observation between a target nucleic acid from a fixed quantity of a sample solution as an object for detection or quantitation, and a probe nucleic acid possessing the base sequence complementary to the specific region in the base sequence of the target nucleic acid upon the mutual interaction. (b) A fluorescent dye capable of emitting fluorescence or enhancing fluorescence upon interacting with the nucleic acid hybrid is selected so as to maintain the fluorescence emission in a dry state while interacting the nucleic acid hybrid. (c) The fluorescent dye is put in the condition under which it exists in a state capable of reacting with the hybrid. (d) The hybrid and the fluorescent dye are dried on the baseplate. (e) After the drying step, the fluorescence from the fluorescent dye as an observation means is measured.

IT 151921-86-7 157137-81-0

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(method for detecting/quantitating target nucleic acid by dry fluorometry)

RN 151921-86-7 CAPLUS

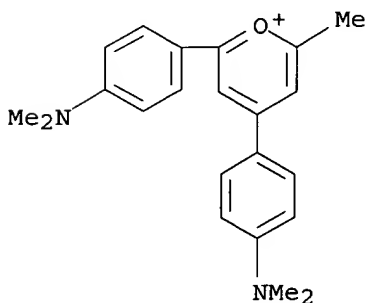
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 157137-81-0 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)



L49 ANSWER 10 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:62382 CAPLUS

DOCUMENT NUMBER: 134:128225

TITLE: Novel pyrylium compound, process for making the same, nucleic acid stain, and labeled nucleic acid

INVENTOR(S): Suzuki, Tomohiro; Okamoto, Tadashi; Yamamoto, Nobuko

PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan

SOURCE: Eur. Pat. Appl., 25 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

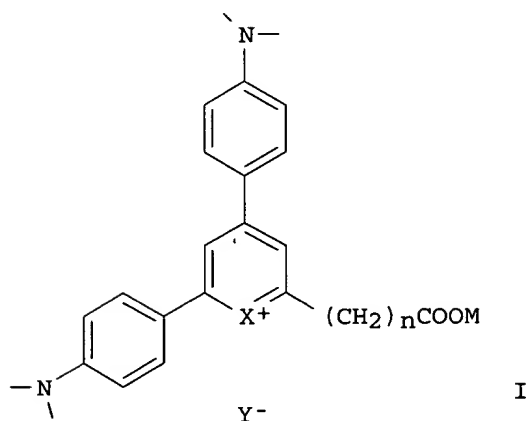
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1070709	A1	20010124	EP 2000-115763	20000721
EP 1070709	B1	20041201		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001097967	A2	20010410	JP 2000-220589	20000721
JP 3679691	B2	20050803		
US 6384237	B1	20020507	US 2000-621668	20000724
PRIORITY APPLN. INFO.:			JP 1999-209828	A 19990723
OTHER SOURCE(S):	MARPAT 134:128225			

GI



AB A novel pyrylium compound is represented by I (X = O, S; Y<sup>-</sup> = monovalent anion; n = 2, 3; and M = H or alkali metal). This pyrylium compound functions as a labeling agent by intermol. bonding to nucleic acids, and as a fluorescence label having a chemical bond with the nucleic acids and an excitation wavelength in a visible light region. The pyrylium iodide, 2-(2-carboxyethyl)-4,6-bis(4-N,N-dimethylaminophenyl)pyrylium iodide, prepared by reacting 4-N,N-dimethylaminoacetophenone and succinic anhydride, fluoresced intensely near 640 nm in a solution containing dsDNA. The compound was

further reacted with N-hydroxysuccinimide and then with a 5'-amino 18-mer oligonucleotide to make a probe.

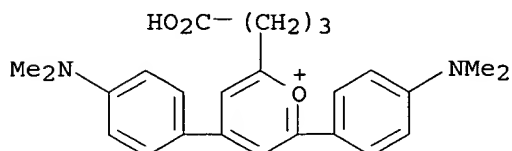
IT **321351-91-1P**

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(novel pyrylium compound, process for making same, nucleic acid stain, and labeled nucleic acid)

RN 321351-91-1 CAPLUS

CN Pyrylium, 2-(3-carboxypropyl)-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



IT **321351-93-3P 321351-94-4P 321351-95-5P**

**321351-97-7P 321351-99-9P 321352-00-5P**

**321352-01-6P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(novel pyrylium compound, process for making same, nucleic acid stain, and labeled nucleic acid)

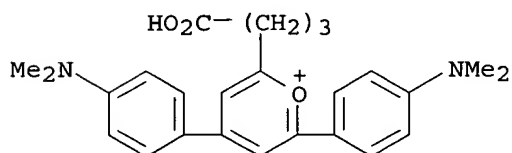
RN 321351-93-3 CAPLUS

CN Pyrylium, 2-(3-carboxypropyl)-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 321351-92-2

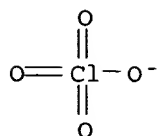
CMF C25 H29 N2 O3



CM 2

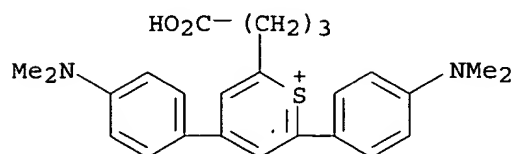
CRN 14797-73-0

CMF Cl O4



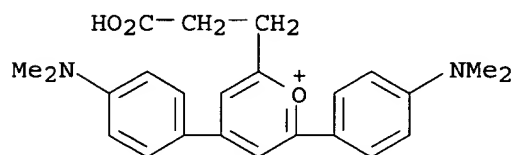
RN 321351-94-4 CAPLUS

CN Thiopyrylium, 2-(3-carboxypropyl)-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 321351-95-5 CAPLUS

CN Pyrylium, 2-(2-carboxyethyl)-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



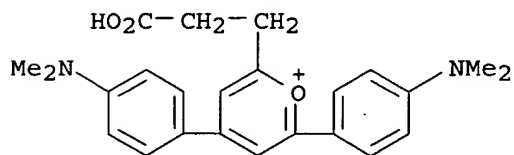
RN 321351-97-7 CAPLUS

CN Pyrylium, 2-(2-carboxyethyl)-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 321351-96-6

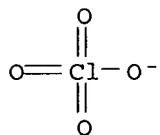
CMF C24 H27 N2 O3



CM 2

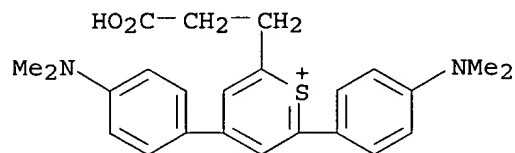
CRN 14797-73-0

CMF Cl O4



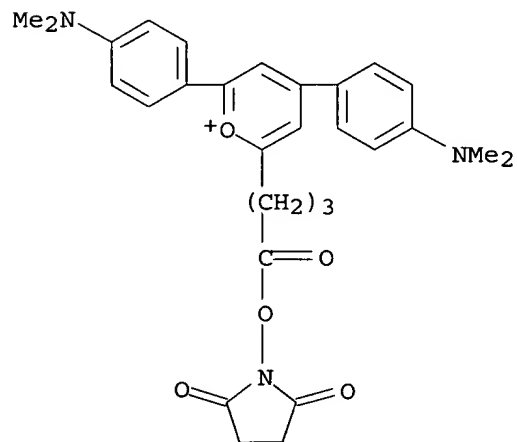
RN 321351-99-9 CAPLUS

CN Thiopyrylium, 2-(2-carboxyethyl)-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



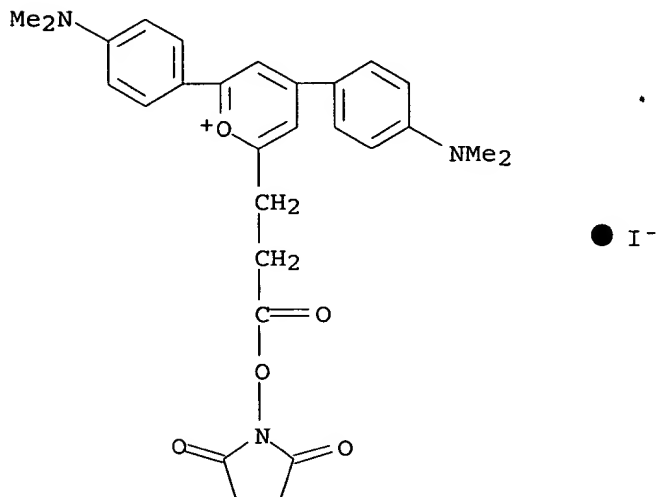
RN 321352-00-5 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[(2,5-dioxo-1-pyrrolidinyl)oxy]-4-oxobutyl]-, iodide (9CI) (CA INDEX NAME)





RN 321352-01-6 CAPLUS  
 CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[3-[(2,5-dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]-, iodide (9CI) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 11 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:64293 CAPLUS

DOCUMENT NUMBER: 132:219062

TITLE: Consideration of end effects of DNA hybridization in selection of fluorescent dyes for development of optical biosensors

AUTHOR(S): Jakeway, S. C.; Krull, U. J.

CORPORATE SOURCE: Chemical Sensors Group, Department of Chemistry, University of Toronto at Mississauga, Mississauga, ON, L5L 1C6, Can.

SOURCE: Canadian Journal of Chemistry (1999), 77(12), 2083-2087

CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER: National Research Council of Canada

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Intercalating fluorescent dyes are in widespread use to detect the presence of double-stranded DNA. Applications include the development of biosensors that rely on the attachment ("tethering") of a dye mol. by a short hydrocarbon chain to the terminus of a strand of DNA so that dye is continuously available and the biosensor is fully reversible. Double strands of DNA have end effects that limit the stability of hybridization and dye intercalation near the termini of the duplexes. Therefore, the selection of the dye must be based on consideration of spectroscopic properties and also issues associated with tether length and the stoichiometry of the binding of the dye with double- and single-stranded DNA. Ethidium bromide (EB) has been used extensively to detect hybridization of DNA in applications such as electrophoresis, gene chips, and biosensors. A number of dyes with greater quantum efficiency than EB for detection of hybridization have been reported. Furthermore, other practical spectroscopic advantages can be gained in terms of improved S/N

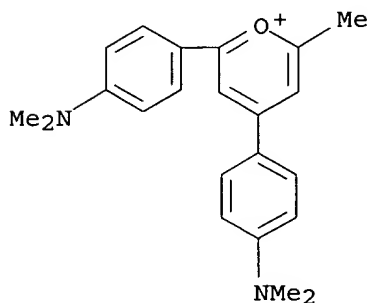
by use of dyes that have excitation that is red shifted relative to EB. Pyriliium iodide has been disclosed as an intercalator of high quantum efficiency and long excitation wavelength. This work investigates pyrylium iodide in comparison to EB as a candidate for preparation of a tethered dye for detection of hybridization of DNA 20-mers.

IT 151921-86-7, Pyrylium iodide

RL: ARG (Analytical reagent use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(double-stranded DNA detection and intercalation with pyrylium iodide)

RN 151921-86-7 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 12 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:562086 CAPLUS

DOCUMENT NUMBER: 131:297140

TITLE: Synthesis and evaluation of chalcogenopyrylium dyes as potential sensitizers for the photodynamic therapy of cancer

AUTHOR(S): Leonard, Kristi A.; Nelen, Marina I.; Simard, Todd P.; Davies, Sherry R.; Gollnick, Sandra O.; Oseroff, Allan R.; Gibson, Scott L.; Hilf, Russell; Chen, Lan Bo; Detty, Michael R.

CORPORATE SOURCE: Departments of Chemistry and Medicinal Chemistry, State University of New York at Buffalo, Buffalo, NY, 14260, USA

SOURCE: Journal of Medicinal Chemistry (1999), 42(19), 3953-3964

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of thiopyrylium (2), selenopyrylium (3), and telluropyrilium dyes (4) was prepared via the addition of Grignard reagents to either 2,6-di(4-dimethylamino)phenylchalcogenopyran-4-ones (5a) or 2-[4-(dimethylamino)phenyl]-6-phenylchalcogenopyran-4-ones (5b) followed by elimination and ion exchange to give the chloride salts. The

absorption spectra and quantum yields for singlet oxygen generation of these dyes suggested that the dyes would have utility as sensitizers for PDT. Selenopyrylium dyes 3a and 3d with quantum yields for singlet oxygen generation of 0.040 and 0.045, resp., were phototoxic to Colo-26 cells in culture. The toxicity of the dyes 2-4 was evaluated in clonogenic assays of human carcinoma cell lines. Importantly, the presence of a sulfur, selenium, or tellurium heteroatom in the mols. had no predictable impact on the toxicity of any particular dye set. Substituents at the 2-, 4-, and 6-positions of the dye had a much greater impact on cytotoxicity. The IC50 values determined in the clonogenic assays did not correlate with chemical properties in the dye mols. such as reduction potential or lipophilicity. Initial in vivo toxicity studies showed no toxicity for these dyes at dosages between 7.2 and 38  $\mu\text{mol/kg}$  in BALB/c mice.

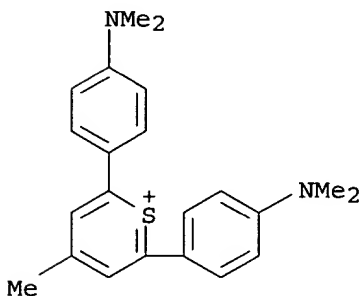
IT 247179-16-4P 247179-17-5P 247179-18-6P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation and evaluation of chalcogenopyrylium dyes as potential photosensitizers for PDT of cancer)

RN 247179-16-4 CAPLUS

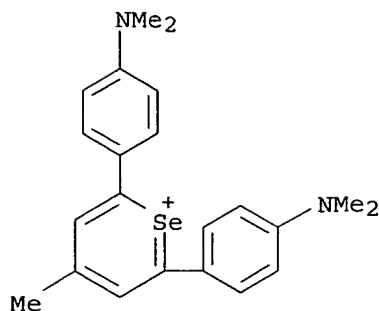
CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

RN 247179-17-5 CAPLUS

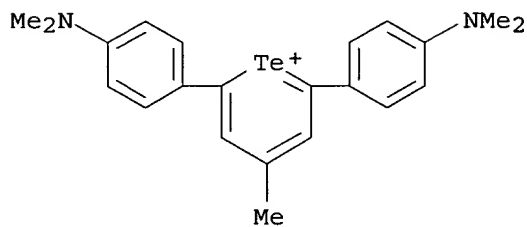
CN Seleninium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

RN 247179-18-6 CAPLUS

CN Tellurinium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, chloride (9CI)  
(CA INDEX NAME)



● Cl<sup>-</sup>

REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 13 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:101258 CAPLUS

DOCUMENT NUMBER: 130:149546

TITLE: Novel methods of attaching probes to a solid support and uses thereof

INVENTOR(S): Okamoto, Tadashi; Yamamoto, Nobuko; Suzuki, Tomohiro

PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan

SOURCE: Eur. Pat. Appl., 43 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 895082	A2	19990203	EP 1998-306107	19980731
EP 895082	A3	19990811		
EP 895082	B1	20030924		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO

JP 11187900	A2	19990713	JP 1998-209923	19980724
JP 2001066305	A2	20010316	JP 2000-232206	19980724
CA 2244403	AA	19990201	CA 1998-2244403	19980731
US 6476215	B1	20021105	US 1998-126851	19980731
AT 250764	E	20031015	AT 1998-306107	19980731
EP 1352976	A2	20031015	EP 2003-76692	19980731
EP 1352976	A3	20031029		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI, CY

ES 2206848	T3	20040516	ES 1998-306107	19980731
US 2002146715	A1	20021010	US 2001-951972	20010914
US 2003059817	A1	20030327	US 2002-219313	20020816
JP 2005118049	A2	20050512	JP 2004-338093	20041122

PRIORITY APPLN. INFO.:

			JP 1997-207837	A	19970801
			JP 1997-287046	A	19971020
			JP 1998-209923	A	19980724
			EP 1998-306107	A3	19980731
			US 1998-126851	A3	19980731

OTHER SOURCE(S): MARPAT 130:149546

AB Provided is a method of attaching probes to a solid support in a markedly high d. and efficiency. An extremely small amount of probe is contained within a liquid, and droplets of the liquid are delivered to the solid support via an ink jet ejection method, thereby forming spots which contain the probe. Since one or more substances can bind specifically to target probes and said probes are arranged in a large number on a solid support, the method can be used to swiftly and accurately determine a base sequence of a nucleic acid or detect a target nucleic acid in a sample.

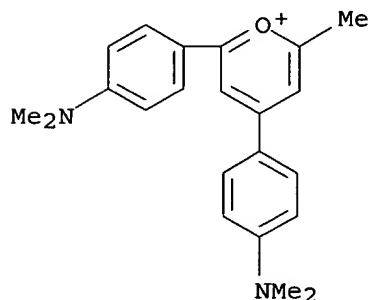
IT **151921-86-7**

RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)

(novel methods of attaching probes to a solid support and uses thereof)

RN 151921-86-7 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

L49 ANSWER 14 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:635481 CAPLUS

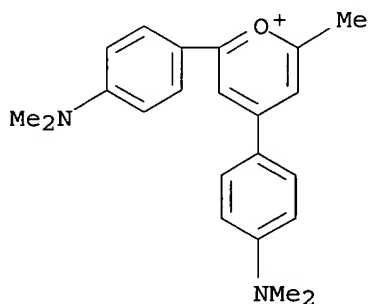
DOCUMENT NUMBER: 129:313122

TITLE: A reagent for detecting nucleic acid tetramers

INVENTOR(S): Yamamoto, Shinko; Okamoto, Takashi; Suzuki, Tomohiro;  
Sugimoto, Naoki  
PATENT ASSIGNEE(S): Canon K. K., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10260186	A2	19980929	JP 1997-66426	19970319
PRIORITY APPLN. INFO.:			JP 1997-66426	19970319

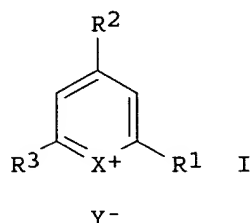
OTHER SOURCE(S): MARPAT 129:313122  
 AB A Markush structure representing a color indicator, 2-methyl-4,6-bis(4-N,N-dimethylaminophenyl)pyrylium iodide, for detecting nucleic acid tetramers is claimed. It ests. the length of the base sequences.  
 IT 151921-86-7  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (color reagent for detecting nucleic acid tetramers)  
 RN 151921-86-7 CAPLUS  
 CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

L49 ANSWER 15 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1998:635286 CAPLUS  
 DOCUMENT NUMBER: 129:311673  
 TITLE: Pyrylium compounds for stabilization of triple-stranded nucleic acids for improving gene therapy  
 INVENTOR(S): Yamamoto, Shinko; Okamoto, Hisashi; Suzuki, Tomohiro; Sugimoto, Naoki  
 PATENT ASSIGNEE(S): Canon K. K., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 10257889	A2	19980929	JP 1997-66427	19970319
PRIORITY APPLN. INFO.:			JP 1997-66427	19970319
OTHER SOURCE(S):	MARPAT	129:311673		
GI				



AB A strategy to stabilize triple-stranded nucleic acids by raising their melting temperature (T<sub>m</sub>) using pyrylium compds. I (X=O,S,Se,Te; R<sub>1</sub>,R<sub>2</sub>,R<sub>3</sub>=two are

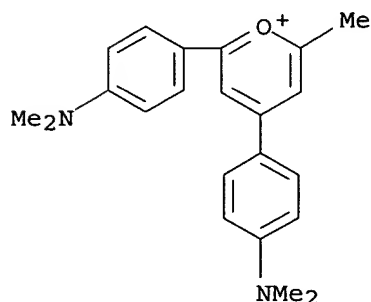
(un)substituted aryl, the other is H, halo, sulfonate, nitro, etc., or (un)substituted alkyl, (un)substituted cycloalkyl, A, or -L-A; where L and A are further defined; Y<sup>-</sup>=anion) is disclosed. Stabilization of triple-stranded nucleic acids with 2-Me-4,6-bis(4-N,N-dimethylaminophenyl)pyrylium, 2-Me-4,6-bis(4-N,N-dimethylaminophenyl)thiopyrylium, 2-Me-2,6-bis(4-N,N-dimethylaminophenyl)pyrylium, or 2-Me-2,6-bis(4-N,N-dimethylaminophenyl)thiopyrylium, and methods of stabilization in weak acidic environment (>pH 6) with alkali metal or alkaline earth metal ions are claimed. The method is applicable in in vivo gene therapy.

IT 157137-81-0P 157137-83-2P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(pyrylium compds. for stabilization of triple-stranded nucleic acids for improving gene therapy)

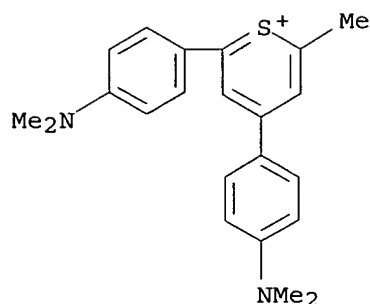
RN 157137-81-0 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)



RN 157137-83-2 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)



L49 ANSWER 16 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:265874 CAPLUS

DOCUMENT NUMBER: 128:291125

TITLE: Chemiluminescent pyrylium compounds for detection of double-stranded nucleic acid formation in quantitative hybridization

INVENTOR(S): Okamoto, Tadashi; Yamamoto, Nobuko

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Eur. Pat. Appl., 62 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 837141	A2	19980422	EP 1997-307682	19970930
EP 837141	A3	19980506		
EP 837141	B1	20030108		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 230801	E	20030115	AT 1997-307682	19970930
CA 2217074	AA	19980403	CA 1997-2217074	19971001
US 6297008	B1	20011002	US 1997-943019	19971002
JP 10158258	A2	19980616	JP 1997-271443	19971003
US 2002115079	A1	20020822	US 2001-931048	20010817
PRIORITY APPLN. INFO.:			JP 1996-262818	A 19961003
			JP 1996-262819	A 19961003
			JP 1996-262820	A 19961003
			US 1997-943019	A3 19971002

OTHER SOURCE(S): MARPAT 128:291125

AB Chemiluminescent pyrylium compds. that luminesce in the presence of hydrogen peroxide and oxalate esters when intercalated into double-stranded nucleic acids and that can be used in the quantitation of hybrid formation are described for use in quant. nucleic acid hybridization. Using these reporters, the target nucleic acid in the sample can be highly sensitively detected, or precisely quantified. The lower limit of detection of nucleic acids was in the range 0.01-0.1 fM of basepairs.

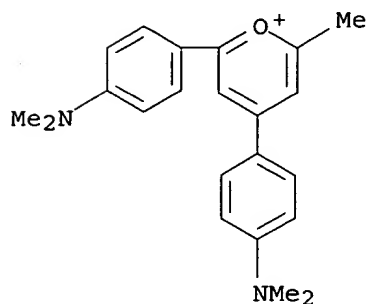
IT 151921-86-7 151921-87-8 157137-82-1  
157137-84-3 165322-07-6 165322-08-7  
165322-10-1 165322-11-2



RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)  
(chemiluminescent pyrylium compds. for detection of double-stranded nucleic acid formation in quant. hybridization)

RN 151921-86-7 CAPLUS

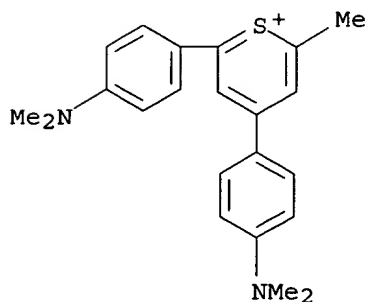
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 151921-87-8 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

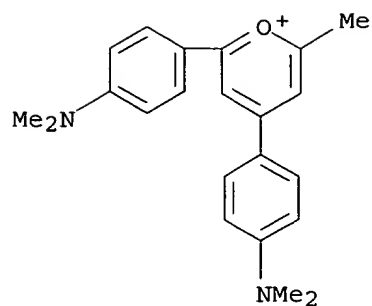
RN 157137-82-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 157137-81-0

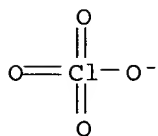
CMF C22 H25 N2 O



CM 2

CRN 14797-73-0

CMF Cl O4



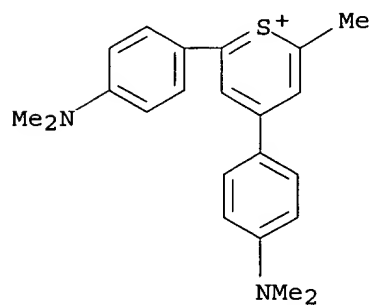
RN 157137-84-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate  
(9CI) (CA INDEX NAME)

CM 1

CRN 157137-83-2

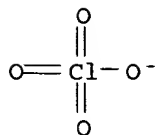
CMF C22 H25 N2 S



CM 2

CRN 14797-73-0

CMF Cl O4



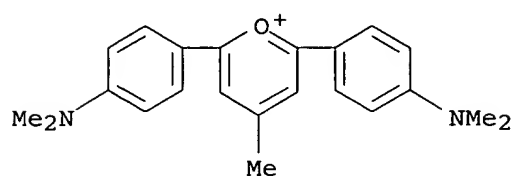
RN 165322-07-6 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 165322-06-5

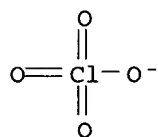
CMF C22 H25 N2 O



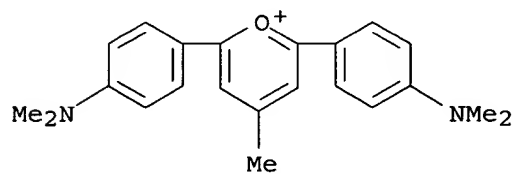
CM 2

CRN 14797-73-0

CMF Cl O4



RN 165322-08-7 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI) (CA  
INDEX NAME)

RN 165322-10-1 CAPLUS

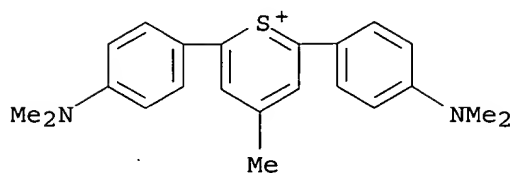
CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate

(9CI) (CA INDEX NAME)

CM 1

CRN 165322-09-8

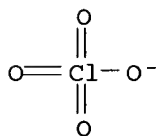
CMF C22 H25 N2 S



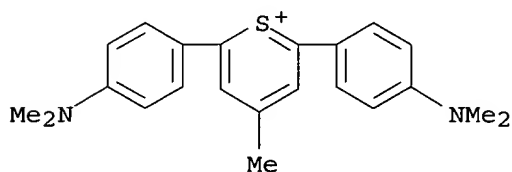
CM 2

CRN 14797-73-0

CMF Cl O4



RN 165322-11-2 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI)  
(CA INDEX NAME)

L49 ANSWER 17 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

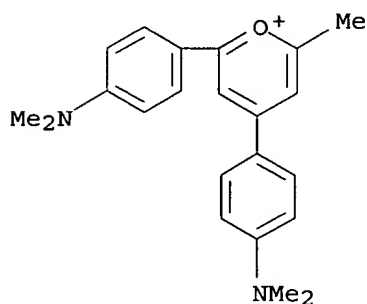
ACCESSION NUMBER: 1998:193203 CAPLUS

DOCUMENT NUMBER: 129:1804

TITLE: Interaction of pyrylium dye with self-complementary  
DNA oligomer as studied by 1H NMR spectroscopyAUTHOR(S): Kanaori, Kenji; Yokoyama, Kayo; Tajima, Kunihiro;  
Yamamoto, Nobuko; Okamoto, Tadashi; Makino, Keisuke  
CORPORATE SOURCE: Dep. Polymer Sci. Eng., Kyoto Inst. Technol., Kyoto,  
606, Japan

SOURCE: Nucleosides &amp; Nucleotides (1998), 17(1-3), 603-611

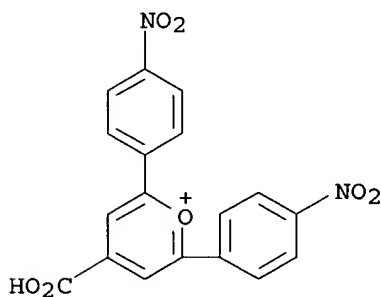
PUBLISHER: CODEN: NUNUD5; ISSN: 0732-8311  
Marcel Dekker, Inc.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Interaction of 2-methyl-4,6-bis-(4-N,N-dimethylaminophenyl) pyrylium salt (P2) with [d(CGACGTCG)]<sub>2</sub> was investigated by <sup>1</sup>H NMR spectroscopy. The aromatic signals of P2 and the oligomer were shifted to the upfield by forming the complex, and intermol. NOEs were also observed between P2 and the terminal CpG base steps but not between P2 and the central CpG. These results indicate that P2 binds to the weakly stacking CpG steps in an intercalation manner.  
IT 151921-86-7  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(intercalation of pyrylium dye with self-complementary DNA oligomer as studied by <sup>1</sup>H NMR spectroscopy)  
RN 151921-86-7 CAPLUS  
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



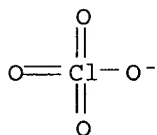
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 18 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1997:631914 CAPLUS  
DOCUMENT NUMBER: 127:235671  
TITLE: NMR study and conformational analysis of 4-carboxy-2,6-diarylpyrylium salts  
AUTHOR(S): Nebie, R. H. Ch.; Aycard, J. P.; Sib, F. S.  
CORPORATE SOURCE: Laboratoire de Chimie Organique Structure et Reactivite, Universite de Ouagadougou, Burkina Faso  
SOURCE: Journal de la Societe Ouest-Africaine de Chimie (1996), 1(2), 97-106  
CODEN: JSOCF2  
PUBLISHER: Societe Ouest-Africaine de Chimie  
DOCUMENT TYPE: Journal  
LANGUAGE: French  
AB <sup>1</sup>H and <sup>13</sup>C chemical shifts of 4-carboxy-2,6-diarylpyrylium salts are determined. Chemical shifts of <sup>13</sup>C are compared with carbon charges which are determined by the semiempirical AMI method. A conformational study carried by the same method shows that these compds. adopt C<sub>2</sub> and C<sub>s</sub> conformations with the

carboxylic group in the plane of the pyrylium ring.  
 IT 195297-90-6  
 RL: PRP (Properties)  
 (NMR study and conformational anal. of)  
 RN 195297-90-6 CAPLUS  
 CN Pyrylium, 4-carboxy-2,6-bis(4-nitrophenyl)-, perchlorate (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 195297-89-3  
 CMF C18 H11 N2 O7

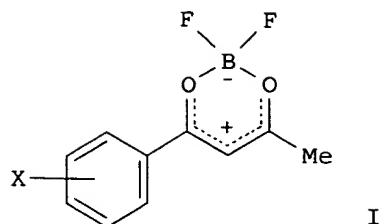


CM 2  
 CRN 14797-73-0  
 CMF Cl O4



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 19 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1997:219252 CAPLUS  
 DOCUMENT NUMBER: 126:293372  
 TITLE: On the formation and solvolysis of  
 4-aryl-2,2-difluoro-6-methyl-1,3,2-(2H)-dioxaborines  
 AUTHOR(S): Goerlitz, Gunter; Hartmann, Horst  
 CORPORATE SOURCE: Inst. Org. Chem., Martin-Luther-Univ.,  
 Halle-Wittenberg, Germany  
 SOURCE: Heteroatom Chemistry (1997), 8(2), 147-155  
 CODEN: HETCE8; ISSN: 1042-7163  
 PUBLISHER: Wiley  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 126:293372  
 GI



AB The condensation of aryl Me ketones 6 with acetic anhydride in the presence of the BF<sub>3</sub>-2HOAc adduct gives fluorescent 4-aryl-2,2-difluoro-6-methyl-1,3,2-(2H)-dioxaborines 8 (shown as I; e.g. X = 4-OMe, 2,3-benzo) in satisfactory yields. The stable 8 can be transformed by hydrolysis into the corresponding aroylacetones. The reaction was optimized so as to avoid the formation of byproducts, such as 2,4-diaryl-6-methylpyrylium tetrafluoroborates 11 or self-condensation products.

IT **96683-08-8P**

RL: BYP (Byproduct); PREP (Preparation)  
(byproduct; preparation and hydrolysis of dioxaborines)

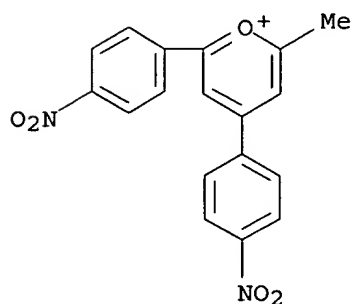
RN 96683-08-8 CAPLUS

CN Pyrylium, 2-methyl-4,6-bis(4-nitrophenyl)-, tetrafluoroborate(1-) (9CI)  
(CA INDEX NAME)

CM 1

CRN 47455-01-6

CMF C18 H13 N2 O5

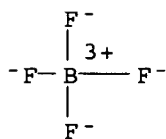


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 20 OF 51 CAPLUS, COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1997 72466 CAPLUS  
DOCUMENT NUMBER: 126:119051  
TITLE: Structure of the terminal heterocyclic groups and spectral-fluorescent properties of polymethine dyes  
AUTHOR(S): Ishchenko, A. A.  
CORPORATE SOURCE: Inst. Org. Khim., Nats. Akad. Nauk Ukrainy, Kiev, 253094, Ukraine  
SOURCE: Izvestiya Akademii Nauk, Seriya Khimicheskaya (1996), (9), 2194-2203  
CODEN: IASKEA  
PUBLISHER: Institut Organicheskoi Khimii im. N. D. Zelinskogo Rossiiskoi Akademii Nauk  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian

AB Math. treatment of the absorption and fluorescence bands of different carbocyanines, containing pyrylium and benzoxazolium terminal groups, and their nitrogen, sulfur- and selenium-containing analogs as well as benzohomologs, and isomeric analog of the pyrylium, has been performed using the method of moments. The regularities in the shifts of the absorption and fluorescence bands upon a change in the heteroatom and position of substituent in terminal groups are explained using the perturbation theory. On the basis of the quantum-chemical calcns., changes in bond orders of the ground and excited states of the dyes were explained. The correlations of the exptl. absorption and fluorescence bands with the frequency and mode of the chromophore oscillations were analyzed. On going from pyrylo-4- to pyrylo-2-cyanines, strong broadening of the bands, the increasing of Stokes shifts, decreasing of the coeffs. of asymmetry, kurtosis and fine structure and fluorescence quantum yields were established.

IT 110673-33-1

RL: PRP (Properties)

(structure of the terminal heterocyclic groups and spectral-fluorescent properties of polymethine dyes)

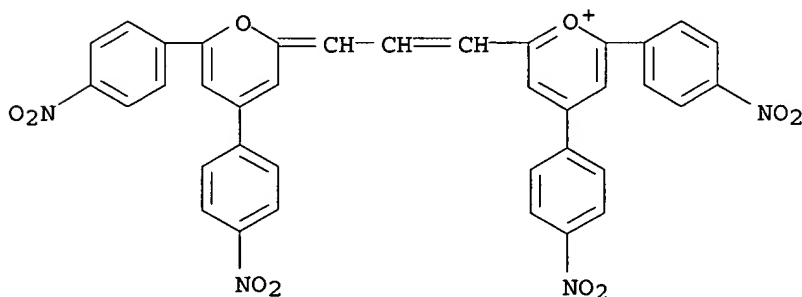
RN 110673-33-1 CAPLUS

CN Pyrylium, 2-[3-[4,6-bis(4-nitrophenyl)-2H-pyran-2-ylidene]-1-propenyl]-4,6-bis(4-nitrophenyl)-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 110673-32-0

CMF C37 H23 N4 O10



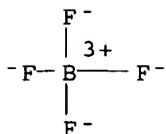


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



*Requested from STIC  
11/18/05*

L49 ANSWER 21 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:48403 CAPLUS

DOCUMENT NUMBER: 126:115288

TITLE: Clinical application of a novel DNA fluorescence intercalator, pyrylium dye, for the quantification of PCR products

AUTHOR(S): Ichikawa, Y.; Ishikawa, T.; Momiyama, N.; Chishima, T.; Hasegawa, S.; Yamaoka, H.; Yamamoto, N.; Okamoto, T.; Kawaguchi, M.; Shimada, H.

CORPORATE SOURCE: School Medicine, Yokohama City University, Kanazawa, 236, Japan

SOURCE: Scandinavian Journal of Clinical and Laboratory Investigation (1996). 56(7). 641-647

CODEN: SJCLAY; ISSN: 0036-5513

PUBLISHER: Scandinavian University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polymerase chain reaction (PCR) is a powerful tool for clin. diagnosis in the field of oncol., infection, and allergy. However, a simple and sensitive method for quantifying PCR products has not been established. Therefore, a novel fluorescence DNA intercalator, pyrylium iodide (P2) to quantify PCR products was used. A 838-bp fragment of the human  $\beta$ -actin gene and a 374-bp fragment of the gene for ornithine decarboxylase (ODC) and ODC primer dimers were generated by PCR and quantified using either P2 or another fluorescence DNA intercalator, YOYO-1. In addition, utilizing RT-PCR and the P2 method, the ODC mRNA expression from 10 colonic cancers was quantified. Serially diluted  $\beta$ -actin and ODC PCR products could be quantified using P2 without having to sep. them from primer dimers and other components of the reaction mixture. However, YOYO-1 could not be used to quantify the PCR products because of high back-ground fluorescence from the primer dimers. In the clin. study, ODC mRNA expression as quantified by P2 was significantly higher in cancerous tissue (113.8 SEM; plate reader units) than in mucosa of normal appearance (68.4). P2 is a promising tool for quantifying PCR products.

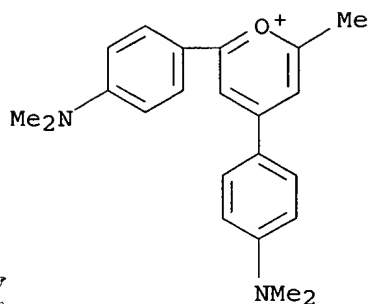
IT 151921-86-7

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(clin. application of a novel DNA fluorescence intercalator for quantification of PCR products)

RN 151921-86-7 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

REFERENCE COUNT:

16

THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L49 ANSWER 22 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:683896 CAPLUS

DOCUMENT NUMBER: 126:72176

TITLE: NMR studies on the binding properties of pyrylium dye to double-stranded DNA

AUTHOR(S): Yokoyama, Kayo; Kanaori, Kenji; Yamamoto, Nobuko; Okamoto, Tadashi; Makino, Keisuke

CORPORATE SOURCE: Dep. Polymer Sci. Eng., Kyoto Inst. Technol., Kyoto, 606, Japan

SOURCE: Nucleic Acids Symposium Series (1996), 35 (Twentythird Symposium on Nucleic Acids Chemistry, 1996), 167-168  
CODEN: NACSD8; ISSN: 0261-3166

PUBLISHER: Oxford University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Interaction of 2-methyl-4,6-bis-(N,N-dimethylaminophenyl)pyrylium salt (P2) with double-stranded DNA (dsDNA) was investigated by <sup>1</sup>H NMR spectroscopy. Chemical shifts change of P2 in the presence of dsDNA and intermol. NOEs indicate that P2 interacts with both 3' and 5' terminal base pairs of dsDNA.

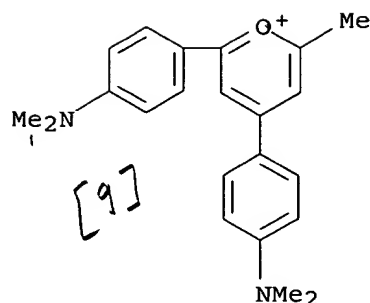
IT 157137-81-0

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(NMR study of pyrylium dye binding to double-stranded DNA)

RN 157137-81-0 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl- (9CI) (CA INDEX NAME)



L49 ANSWER 23 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1996:241589 CAPLUS  
 DOCUMENT NUMBER: 124:274639  
 TITLE: Medium and method for optical recording  
 INVENTOR(S): Mihara, Cheko; Okamoto, Hisashi; Yano, Keiya; Santo, Takeshi  
 PATENT ASSIGNEE(S): Canon Kk, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08006204	A2	19960112	JP 1994-135691	19940617
JP 3437256	B2	20030818		

*requested*

PRIORITY APPLN. INFO.: JP 1994-135691 19940617

AB The title optical recording medium comprises on its substrate a recording layer containing a nucleic acid and a dye which will emit fluorescence in the presence of the nucleic acid on irradiation with light. Also claimed is an optical recording method involving selectively irradiating the recording layer with a recording light.

IT 157137-82-1P

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)  
 (optical recording medium from)

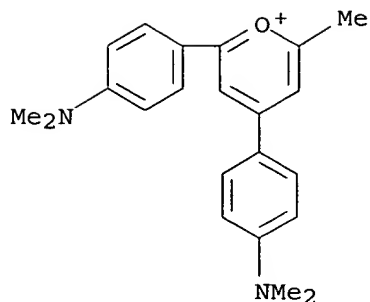
RN 157137-82-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI)  
 (CA INDEX NAME)

CM 1

CRN 157137-81-0

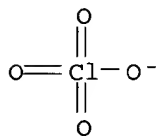
CMF C22 H25 N2 O



CM 2

CRN 14797-73-0

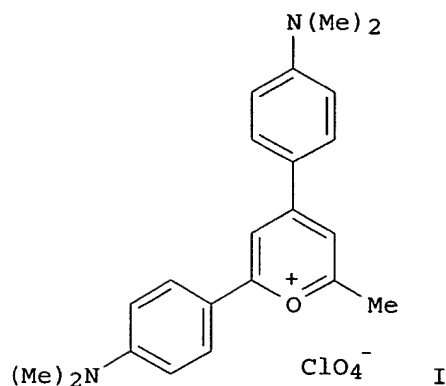
CMF C1 O4



L49 ANSWER 24 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1996:177903 CAPLUS  
 DOCUMENT NUMBER: 124:216031  
 TITLE: Electrophotographic photoreceptor and  
 electrophotographic apparatus using same  
 INVENTOR(S): Tanaka, Hisami; Okamoto, Hisashi  
 PATENT ASSIGNEE(S): Canon Kk, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07333875	A2	19951222	JP 1994-148784	19940608
PRIORITY APPLN. INFO.:			JP 1994-148784	19940608
OTHER SOURCE(S):	MARPAT	124:216031		

GI



AB In the title electrophotog. photoreceptor comprising a photosensitive layer on an elec. conductive substrate, the photosensitive layer contains a pyrylium type dye I (X = S, O, Se; R<sub>1,2</sub> = alkyl, aralkyl, aryl; R<sub>3</sub> = alkyl; Y = anion). Also claimed is an electrophotog. apparatus using the above photoreceptor.

IT 174641-04-4

RL: DEV (Device component use); USES (Uses)  
(electrophotog. photoreceptor from)

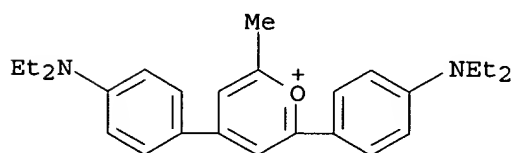
RN 174641-04-4 CAPLUS

CN Pyrylium, 2,4-bis[4-(diethylamino)phenyl]-6-methyl-, tetrafluoroborate(1-)  
(9CI) (CA INDEX NAME)

CM 1

CRN 174641-03-3

CMF C26 H33 N2 O

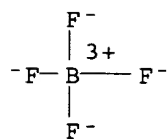


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



IT 157137-82-1P 157137-84-3P

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP  
(Preparation); USES (Uses)  
(electrophotog. photoreceptor from)

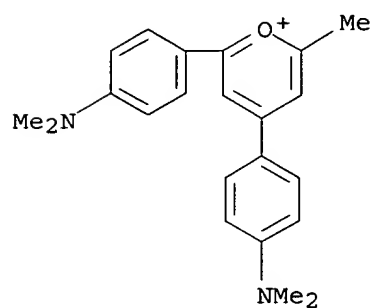
RN 157137-82-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 157137-81-0

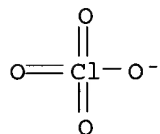
CMF C22 H25 N2 O



CM 2

CRN 14797-73-0

CMF Cl O4



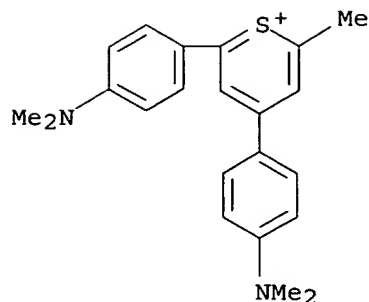
RN 157137-84-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate  
(9CI) (CA INDEX NAME)

CM 1

CRN 157137-83-2

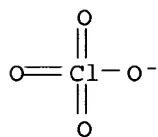
CMF C22 H25 N2 S



CM 2

CRN 14797-73-0

CMF Cl 04



L49 ANSWER 25 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:153406 CAPLUS

DOCUMENT NUMBER: 124:197738

TITLE: A method for detecting a target substance in a sample, utilizing pyrylium compound ]

INVENTOR(S): Yamamoto, Nobuko; Okamoto, Tadashi

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Eur. Pat. Appl., 87 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 684239	A1	19951129	EP 1995-303567	19950525
EP 684239	B1	20031210		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
JP 07313199	A2	19951205	JP 1994-112626	19940526
JP 07327696	A2	19951219	JP 1994-125040	19940607
AT 256119	E	20031215	AT 1995-303567	19950525
US 6156506	A	20001205	US 1997-825586	19970401
PRIORITY APPLN. INFO.:			JP 1994-112626	A 19940526
			JP 1994-125040	A 19940607
			US 1995-450688	B1 19950525

OTHER SOURCE(S): MARPAT 124:197738

AB A method for detecting a target substance in a sample comprises the steps of providing at least 2 reagents that can form a reaction system for causing changes as the result of an interaction between them, the interaction being caused only when the target substance is present in the

sample; reacting the reagents with the target substance; and measuring the resulting changes based on the interaction, wherein at least 1 of the reagents forming the reaction system is selected from specific pyrylium compds. The method is useful for the detection and identification of a desired base sequence of nucleic acids (DNA or RNA) of viruses, microbes, animals, plants, and human beings, and detection of mutation in base sequences, and detection of various substances with immune reactions such as immunoassay.

IT 151921-86-7P 151921-87-8P 157137-82-1P

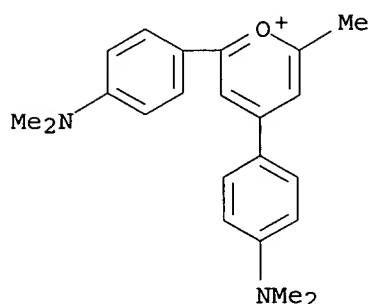
157137-84-3P

RL: ARG (Analytical reagent use); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(pyrylium compds. for detecting target substances in biol. samples)

RN 151921-86-7 CAPLUS

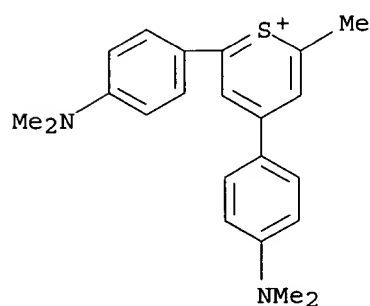
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 151921-87-8 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 157137-82-1 CAPLUS

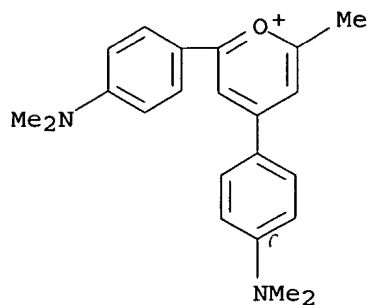


CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 157137-81-0

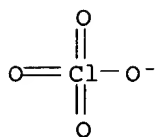
CMF C22 H25 N2 O



CM 2

CRN 14797-73-0

CMF Cl O4



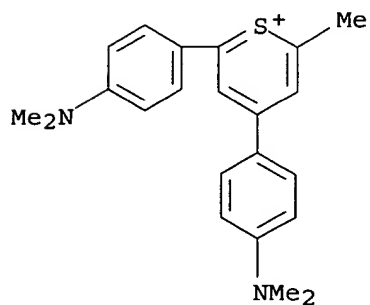
RN 157137-84-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate  
(9CI) (CA INDEX NAME)

CM 1

CRN 157137-83-2

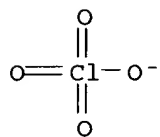
CMF C22 H25 N2 S



CM 2

CRN 14797-73-0

CMF Cl O4



IT 165322-91-8P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST  
(Analytical study); PREP (Preparation); USES (Uses)  
(pyrylium compds. for detecting target substances in biol. samples)

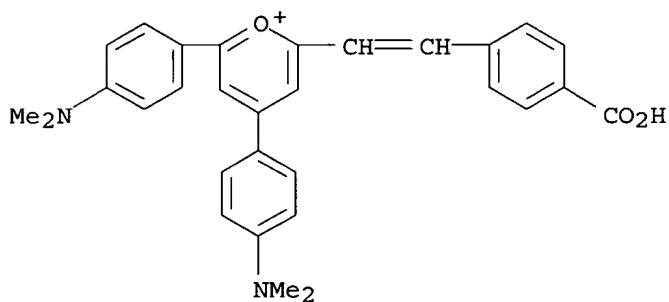
RN 165322-91-8 CAPLUS

CN Pyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-  
, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-90-7

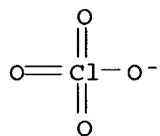
CMF C30 H29 N2 O3



CM 2

CRN 14797-73-0

CMF Cl O4



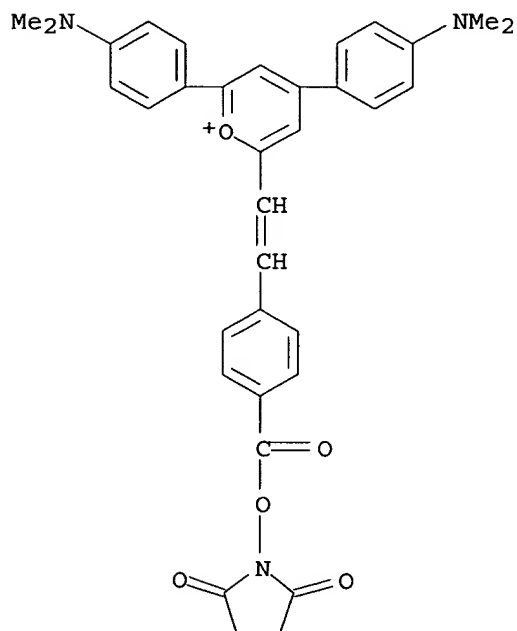
IT 174299-27-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(pyrylium compds. for detecting target substances in biol. samples)

RN 174299-27-5 CAPLUS  
 CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

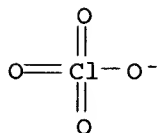
CM 1

CRN 174299-26-4  
 CMF C34 H32 N3 O5



CM 2

CRN 14797-73-0  
 CMF Cl O4

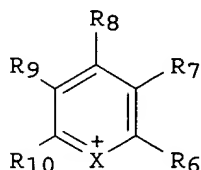


L49 ANSWER 26 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1995:990819 CAPLUS  
 DOCUMENT NUMBER: 124:47614  
 TITLE: Safe methods for inducing mutation in cells using heterocyclic ring compounds  
 INVENTOR(S): Yano, Tetsuya; Okamoto, Hisashi; Yamamoto, Nobuko; Kawaguchi, Masahiro  
 PATENT ASSIGNEE(S): Canon Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07250680	A2	19951003	JP 1994-44512	19940316
PRIORITY APPLN. INFO.:			JP 1994-44512	19940316
OTHER SOURCE(S):	MARPAT	124:47614		

GI



Y- I

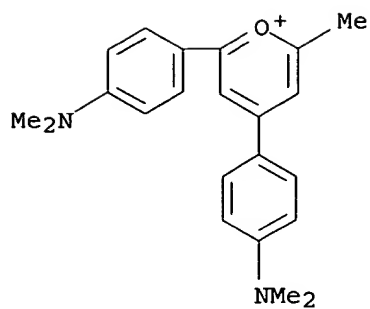
AB A safe method for inducing mutation in microbial, plant, and animal cells using a combination of a heterocyclic ring compound and irradiation at 470-800 nm is disclosed. Synthesis of a variety of compound I (e.g., X=O; Y=ClO<sub>4</sub>; R<sub>6</sub>=CH<sub>3</sub>; R<sub>7</sub>=H; R<sub>8</sub>=Ph-N(CH<sub>3</sub>)<sub>2</sub>; R<sub>9</sub>=H; R<sub>10</sub>=Ph-N(CH<sub>3</sub>)<sub>2</sub>) was shown. The method was demonstrated using Ames test and mouse FM3A cells.

IT 151921-86-7P 151921-87-8P 157137-82-1P  
 157137-84-3P 165321-62-0P 165321-63-1P  
 165321-65-3P 165321-66-4P 165321-68-6P  
 165321-69-7P 165321-86-8P 165321-87-9P  
 165321-89-1P 165321-90-4P 165321-92-6P  
 165321-93-7P 165321-95-9P 165321-96-0P  
 165321-98-2P 165321-99-3P 165322-01-0P  
 165322-02-1P 165322-07-6P 165322-08-7P  
 165322-19-0P 165322-20-3P 165322-25-8P  
 165322-26-9P 165322-37-2P 165322-38-3P  
 165322-43-0P 165322-44-1P 165322-49-6P  
 165322-50-9P 165322-61-2P 165322-62-3P  
 165322-67-8P 165322-68-9P 165322-73-6P  
 165322-74-7P 165322-85-0P 165322-86-1P  
 165322-91-8P 165322-92-9P 165322-97-4P  
 165322-98-5P 165323-09-1P 165323-10-4P  
 165323-15-9P 165323-16-0P 171611-64-6P  
 171611-65-7P 171611-67-9P 171611-68-0P  
 171611-70-4P 171611-71-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (heterocyclic ring compound and its synthesis and use for inducing mutation with improved safety)

RN 151921-86-7 CAPLUS

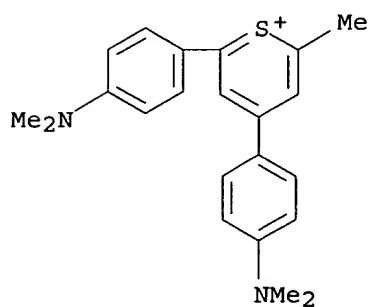
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 151921-87-8 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

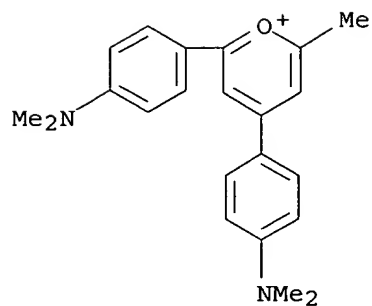
RN 157137-82-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 157137-81-0

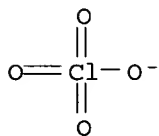
CMF C22 H25 N2 O



CM 2

CRN 14797-73-0

CMF Cl O4



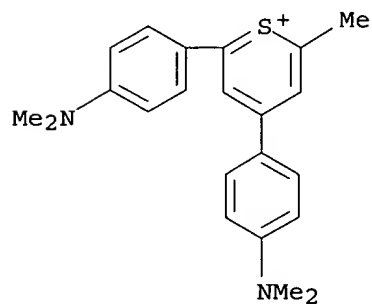
RN 157137-84-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate  
(9CI) (CA INDEX NAME)

CM 1

CRN 157137-83-2

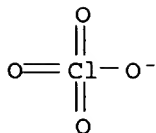
CMF C22 H25 N2 S



CM 2

CRN 14797-73-0

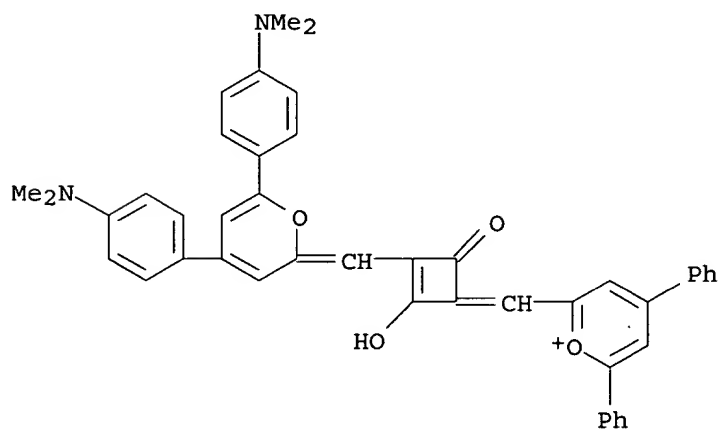
CMF Cl O4



RN 165321-62-0 CAPLUS  
 CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

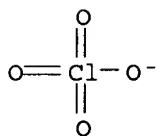
CM 1

CRN 165321-61-9  
 CMF C44 H37 N2 O4

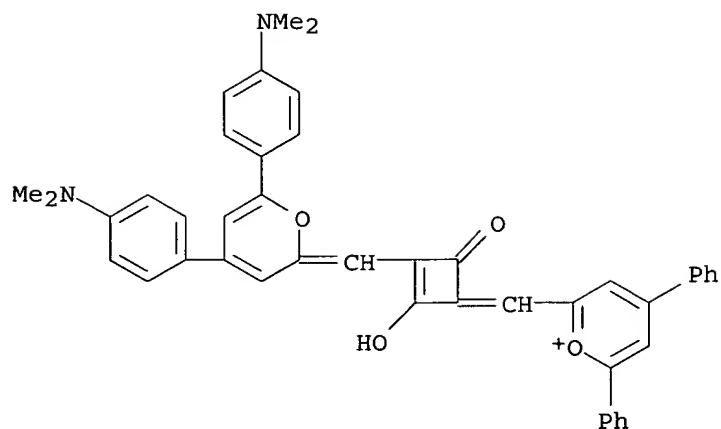


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165321-63-1 CAPLUS  
 CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)

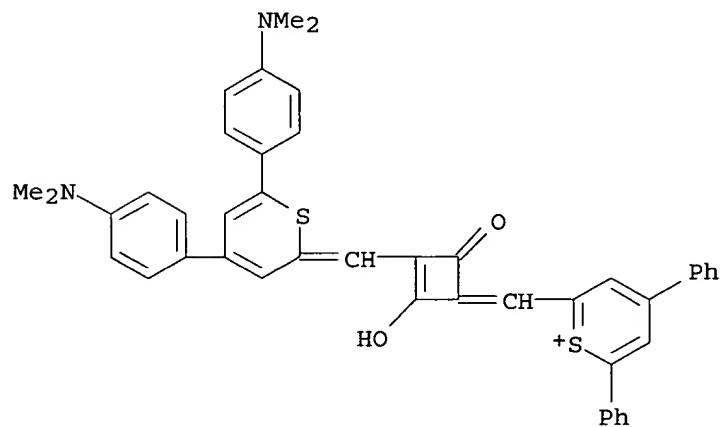


● I<sup>-</sup>

RN 165321-65-3 CAPLUS  
 CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

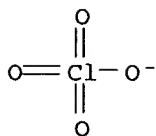
CRN 165321-64-2  
 CMF C44 H37 N2 O2 S2



CM 2

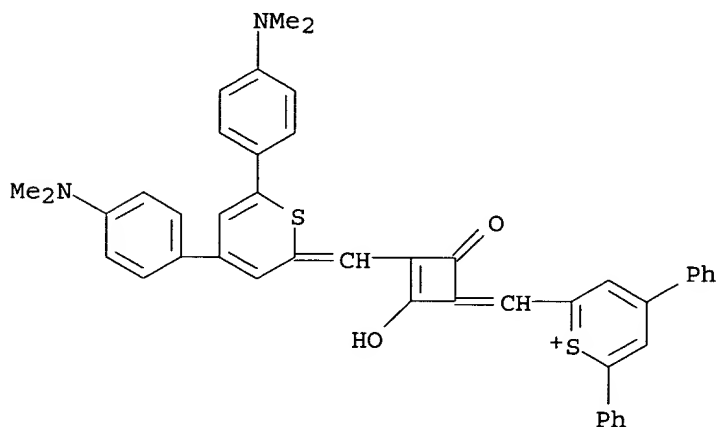
CRN 14797-73-0  
 CMF C1 O4





RN 165321-66-4 CAPLUS

CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



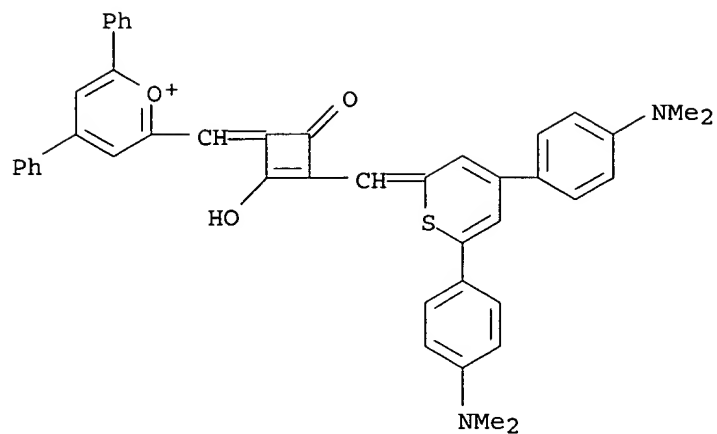
RN 165321-68-6 CAPLUS

CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 165321-67-5

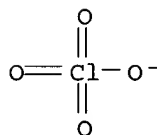
CMF C44 H37 N2 O3 S



CM 2

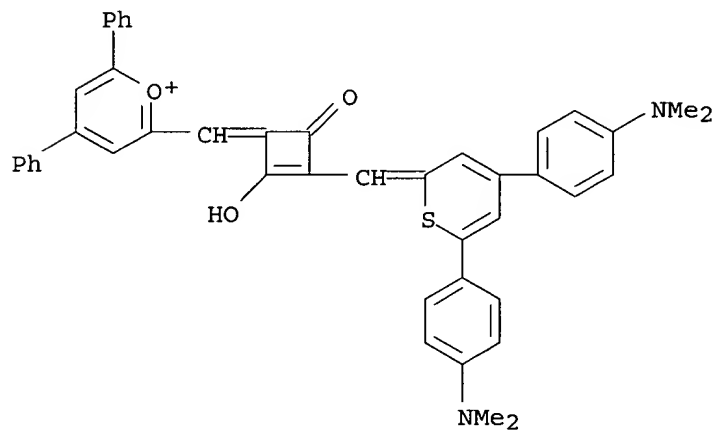
CRN 14797-73-0

CMF C1 O4



RN 165321-69-7 CAPLUS

CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)

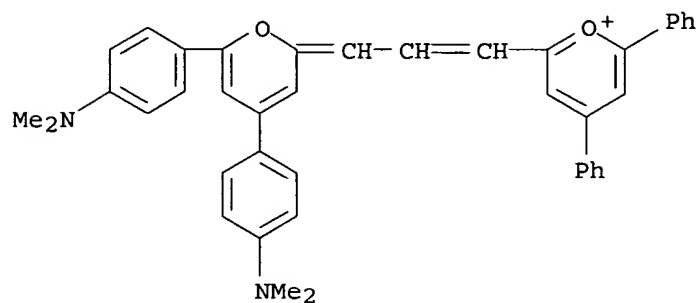


RN 165321-86-8 CAPLUS  
 CN Pyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-85-7

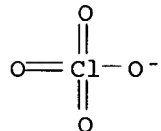
CMF C41 H37 N2 O2



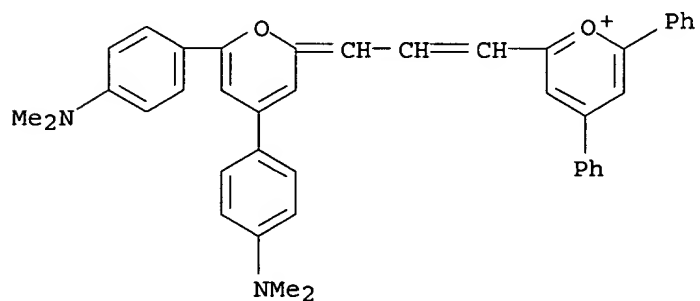
CM 2

CRN 14797-73-0

CMF Cl O4



RN 165321-87-9 CAPLUS  
 CN Pyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



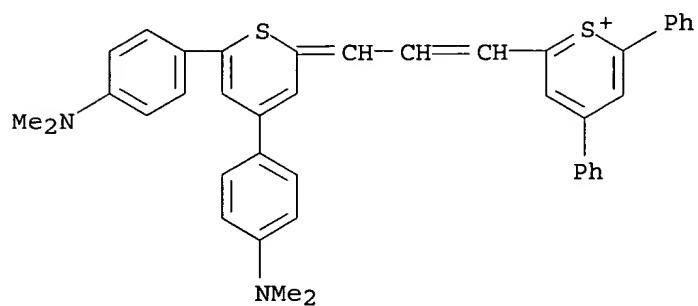
RN 165321-89-1 CAPLUS

CN Thiopyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-88-0

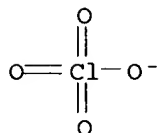
CMF C41 H37 N2 S2



CM 2

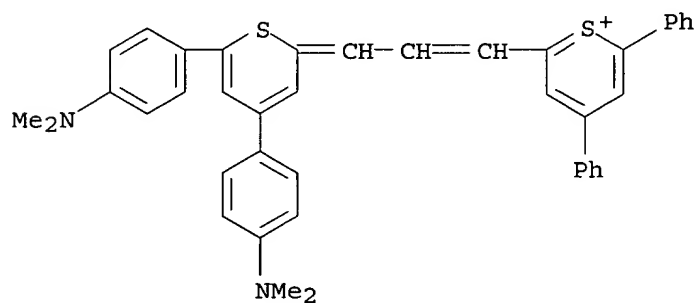
CRN 14797-73-0

CMF Cl O4



RN 165321-90-4 CAPLUS

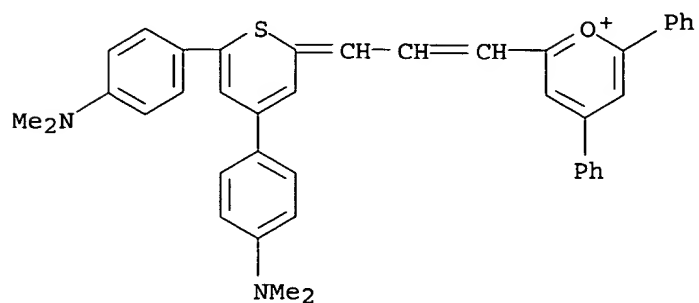
CN Thiopyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



RN 165321-92-6 CAPLUS  
 CN Pyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

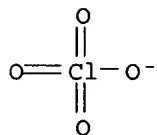
CM 1

CRN 165321-91-5  
 CMF C41 H37 N2 O S

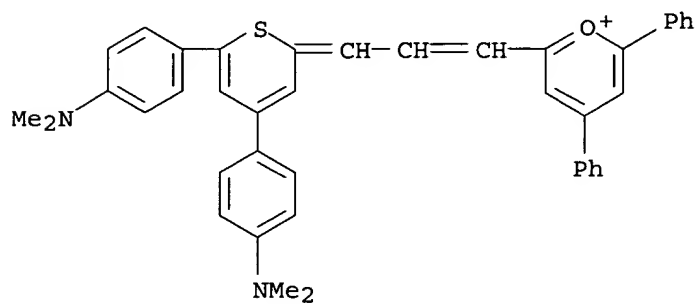


CM 2

CRN 14797-73-0  
 CMF Cl O4



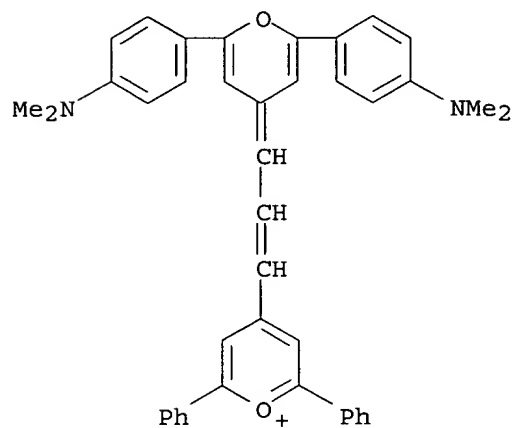
RN 165321-93-7 CAPLUS  
 CN Pyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



RN 165321-95-9 CAPLUS  
 CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

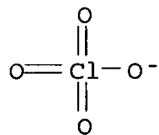
CM 1

CRN 165321-94-8  
 CMF C41 H37 N2 O2

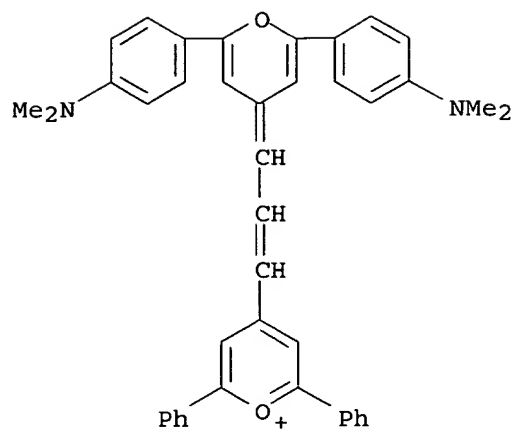


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165321-96-0 CAPLUS  
 CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

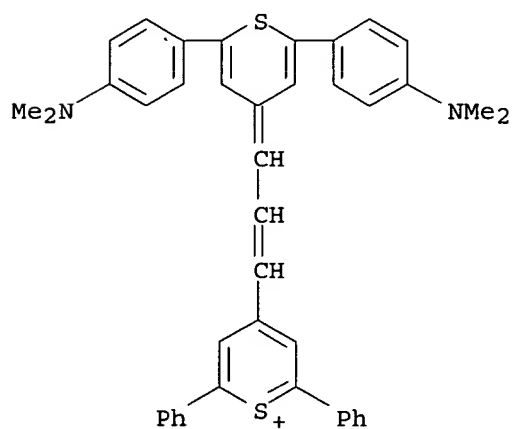
RN 165321-98-2 CAPLUS

CN Thiopyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-97-1

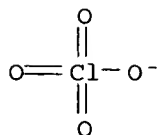
CMF C41 H37 N2 S2



CM 2

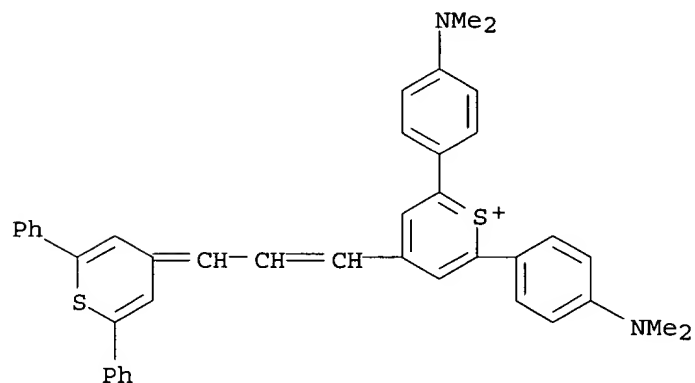
CRN 14797-73-0

CMF C1 O4



RN 165321-99-3 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[3-(2,6-diphenyl-4H-thiopyran-4-ylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



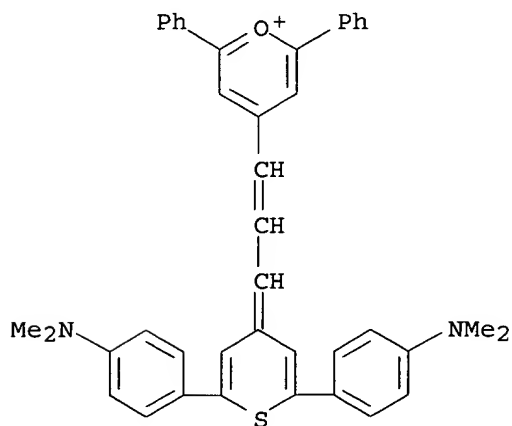
RN 165322-01-0 CAPLUS

CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-00-9

CMF C41 H37 N2 O S

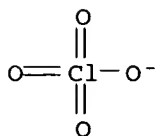




CM 2

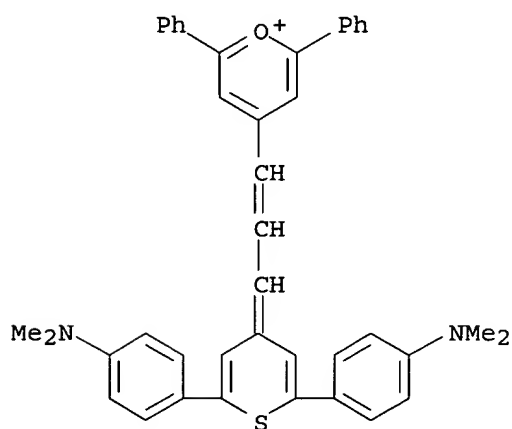
CRN 14797-73-0

CMF Cl O4



RN 165322-02-1 CAPLUS

CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



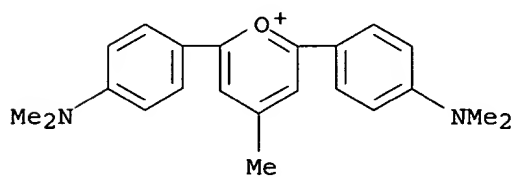
RN 165322-07-6 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-06-5

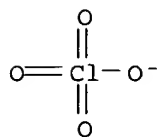
CMF C22 H25 N2 O



CM 2

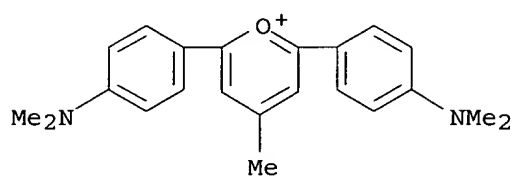
CRN 14797-73-0

CMF Cl O4



RN 165322-08-7 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI) (CA INDEX NAME)



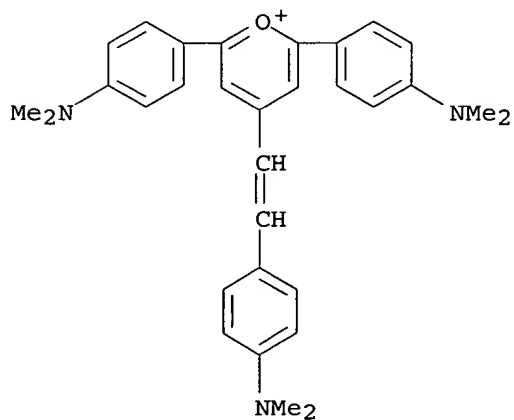
RN 165322-19-0 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-18-9

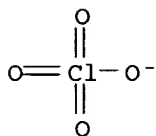
CMF C31 H34 N3 O



CM 2

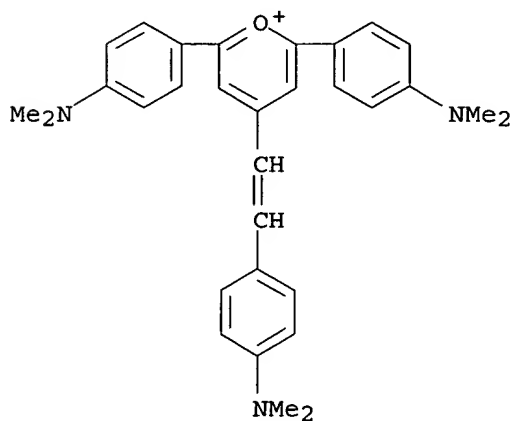
CRN 14797-73-0

CMF Cl O4



RN 165322-20-3 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



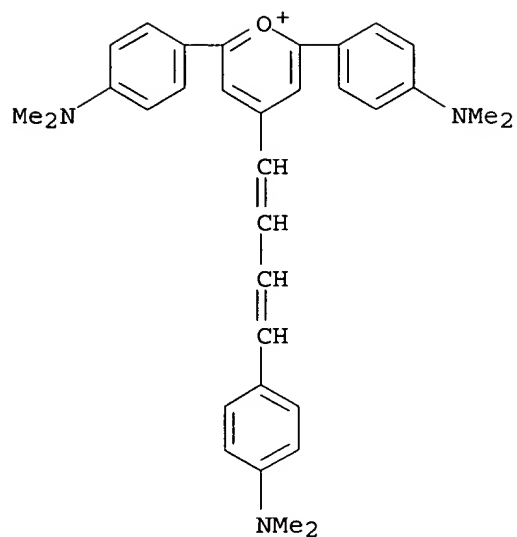
RN 165322-25-8 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-24-7

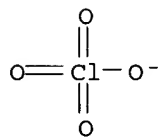
CMF C33 H36 N3 O



CM 2

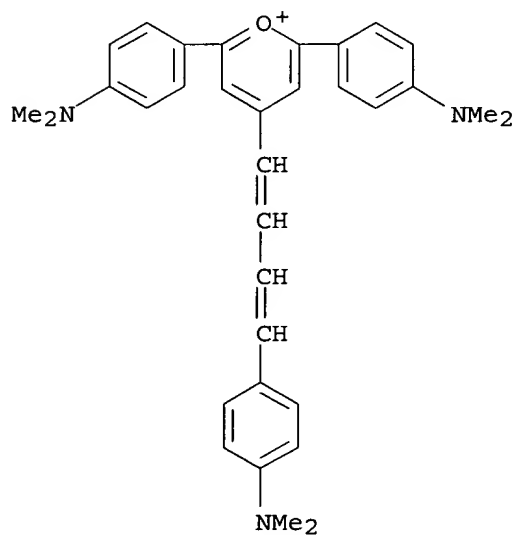
CRN 14797-73-0

CMF Cl O4



RN 165322-26-9 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)

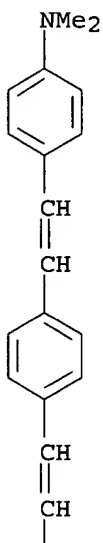


RN 165322-37-2 CAPLUS  
CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

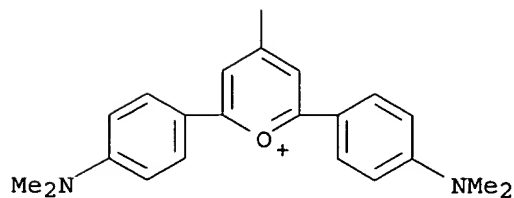
CM 1

CRN 165322-36-1  
CMF C39 H40 N3 O

PAGE 1-A

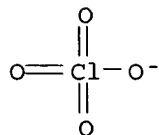


PAGE 2-A



CM 2

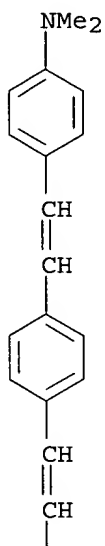
CRN 14797-73-0  
CMF Cl O4



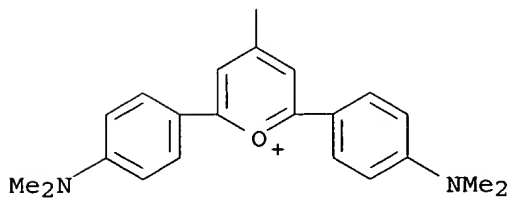
RN 165322-38-3 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RN 165322-43-0 CAPLUS

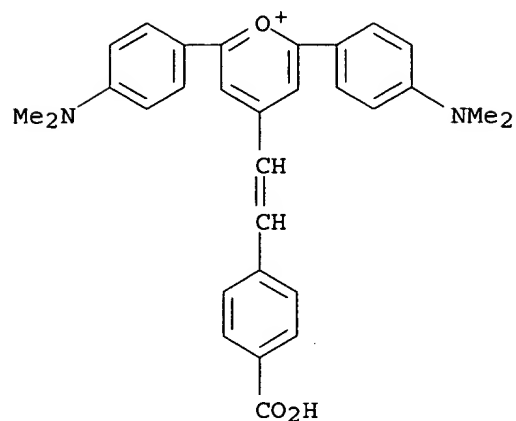
CN Pyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-

, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-42-9

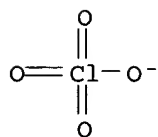
CMF C30 H29 N2 O3



CM 2

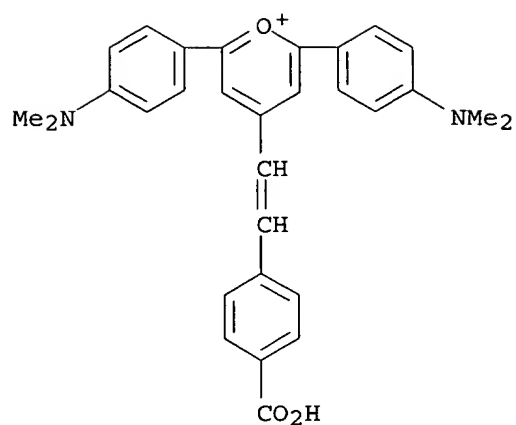
CRN 14797-73-0

CMF Cl O4



RN 165322-44-1 CAPLUS

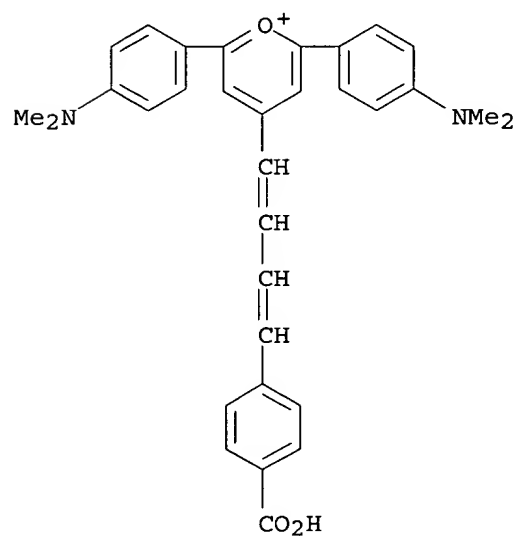
CN Pyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-  
, iodide (9CI) (CA INDEX NAME)



RN 165322-49-6 CAPLUS  
 CN Pyrylium, 4-[4-(4-carboxyphenyl)-1,3-butadienyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

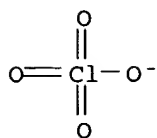
CRN 165322-48-5  
 CMF C32 H31 N2 O3



CM 2

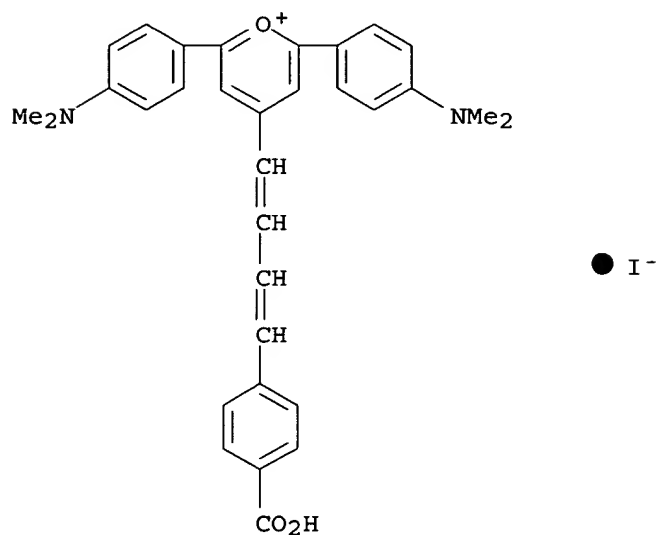
CRN 14797-73-0  
 CMF C1 O4





RN 165322-50-9 CAPLUS

CN Pyrylium, 4-[4-(4-carboxyphenyl)-1,3-butadienyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-61-2 CAPLUS

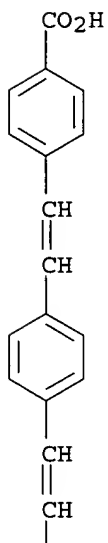
CN Pyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

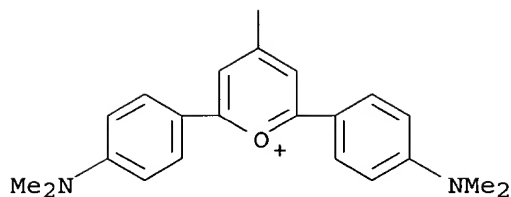
CRN 165322-60-1

CMF C38 H35 N2 O3

PAGE 1-A



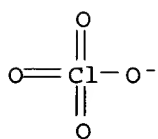
PAGE 2-A



CM 2

CRN 14797-73-0

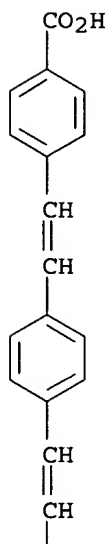
CMF Cl O4



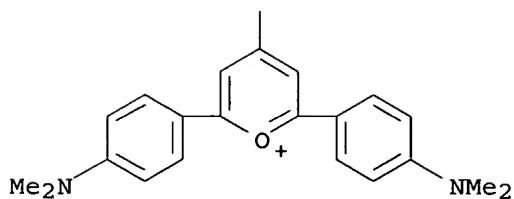
RN 165322-62-3 CAPLUS

CN Pyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



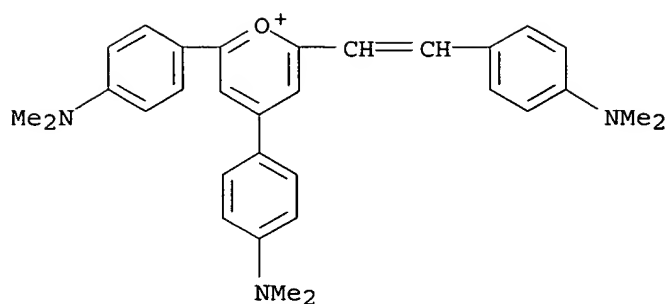
PAGE 2-A



RN 165322-67-8 CAPLUS  
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

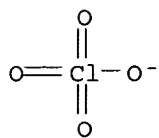
CRN 165322-66-7  
CMF C31 H34 N3 O



CM 2

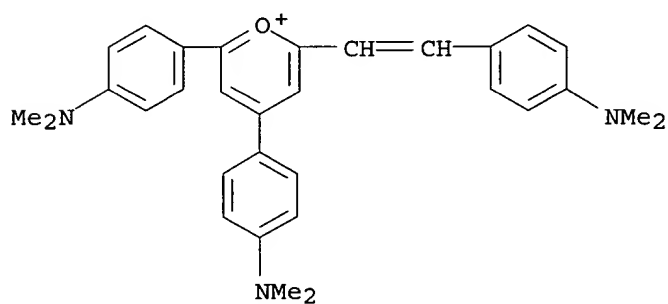
CRN 14797-73-0

CMF Cl O4



RN 165322-68-9 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



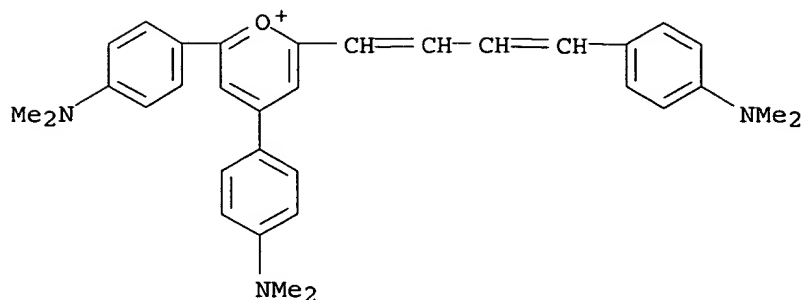
RN 165322-73-6 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-72-5

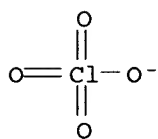
CMF C33 H36 N3 O



CM 2

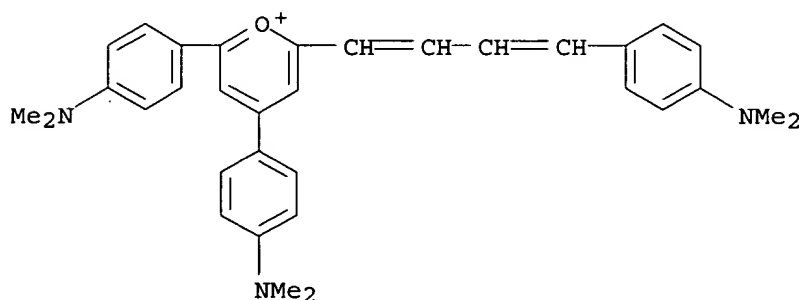
CRN 14797-73-0

CMF Cl O4



RN 165322-74-7 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

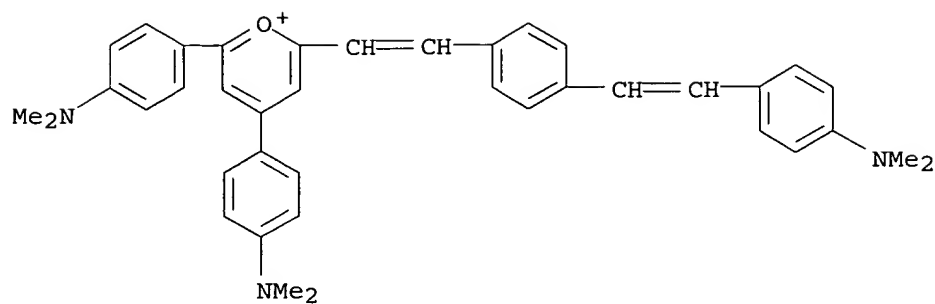
RN 165322-85-0 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-84-9

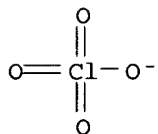
CMF C39 H40 N3 O



CM 2

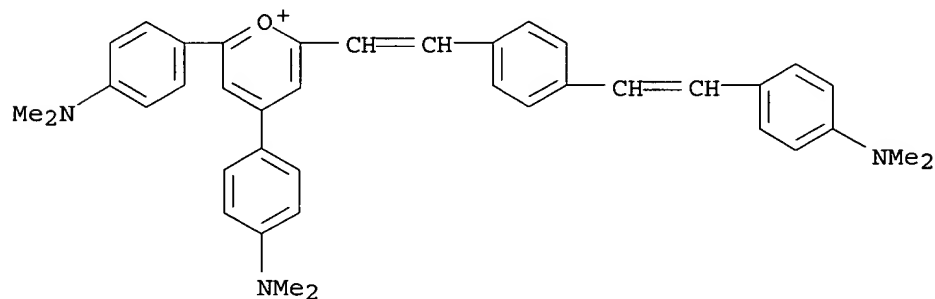
CRN 14797-73-0

CMF Cl O4



RN 165322-86-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

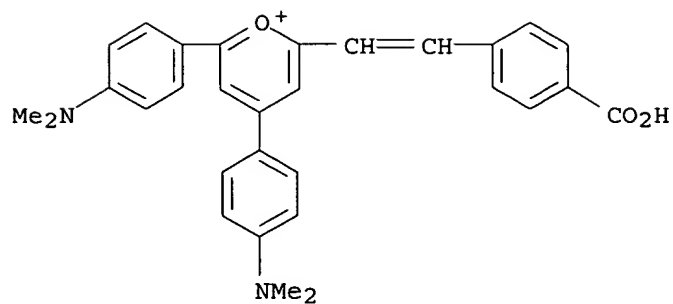
RN 165322-91-8 CAPLUS

CN Pyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-90-7

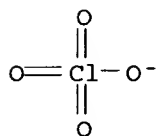
CMF C30 H29 N2 O3



CM 2

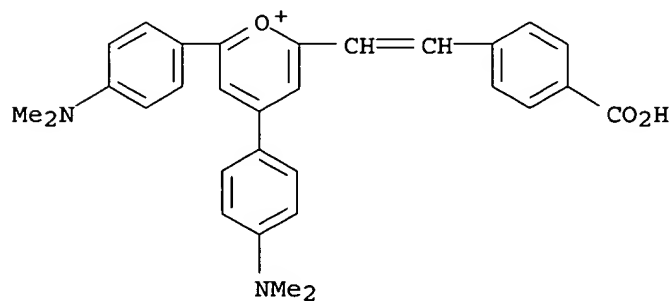
CRN 14797-73-0

CMF Cl O4



RN 165322-92-9 CAPLUS

CN Pyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



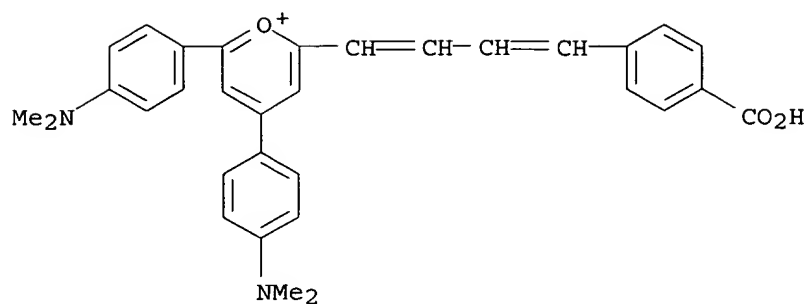
RN 165322-97-4 CAPLUS

CN Pyrylium, 2-[4-(4-carboxyphenyl)-1,3-butadienyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-96-3

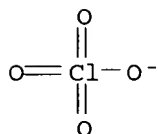
CMF C32 H31 N2 O3



CM 2

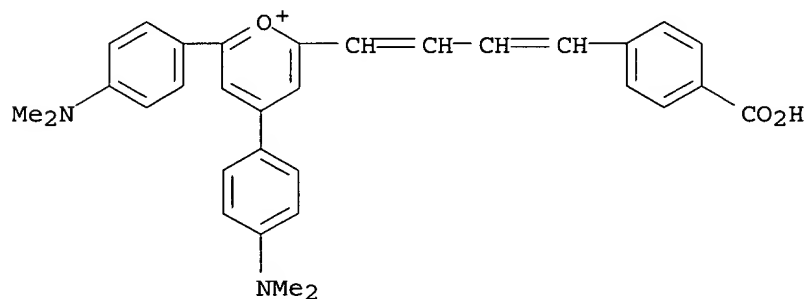
CRN 14797-73-0

CMF Cl O4



RN 165322-98-5 CAPLUS

CN Pyrylium, 2-[4-(4-carboxyphenyl)-1,3-butadienyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

RN 165323-09-1 CAPLUS

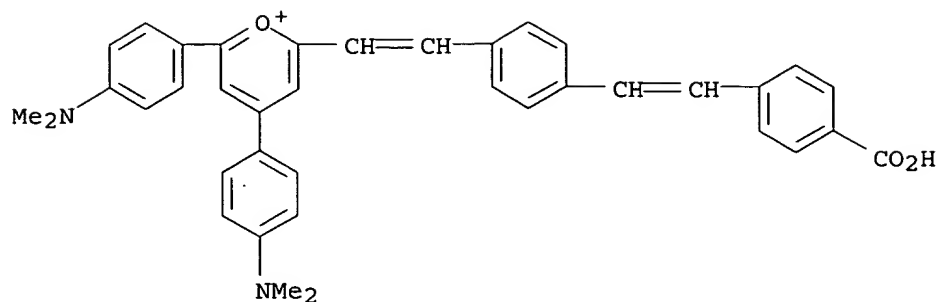
CN Pyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165323-08-0

CMF C38 H35 N2 O3

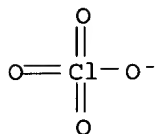




CM 2

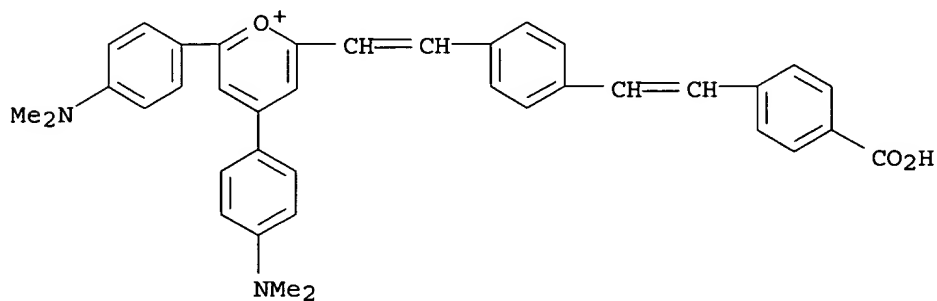
CRN 14797-73-0

CMF Cl O4



RN 165323-10-4 CAPLUS

CN Pyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



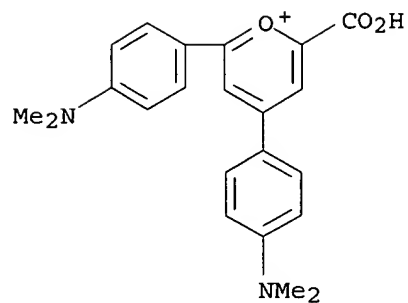
RN 165323-15-9 CAPLUS

CN Pyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165323-14-8

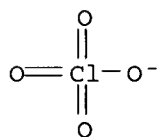
CMF C22 H23 N2 O3



CM 2

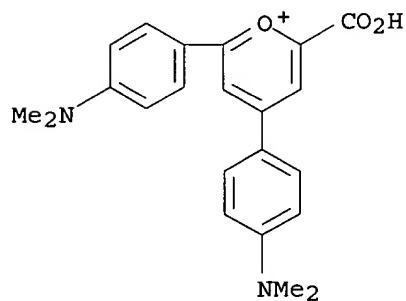
CRN 14797-73-0

CMF Cl O4



RN 165323-16-0 CAPLUS

CN Pyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



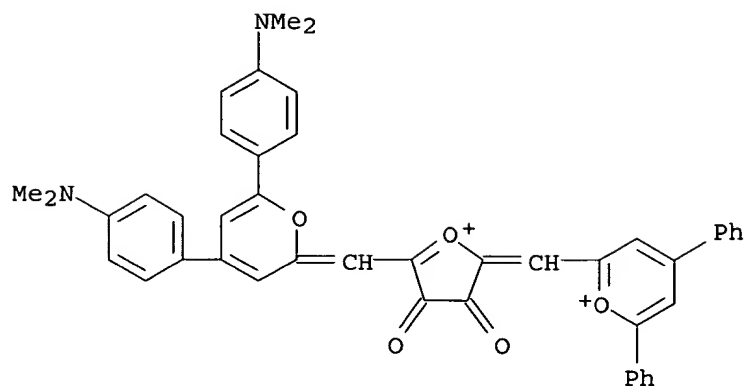
RN 171611-64-6 CAPLUS

CN Pyrylium, 2-[[5-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-3,4-dihydro-3,4-dioxo-2H-furylium-2-ylidene]methyl]-4,6-diphenyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 171611-63-5

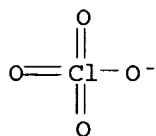
CMF C44 H36 N2 O5



CM 2

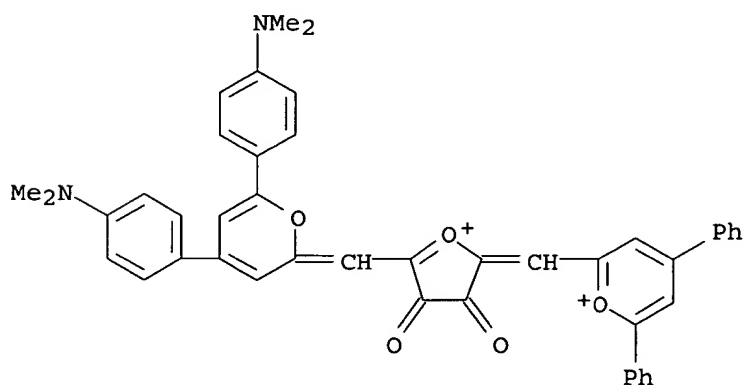
CRN 14797-73-0

CMF Cl O4



RN 171611-65-7 CAPLUS

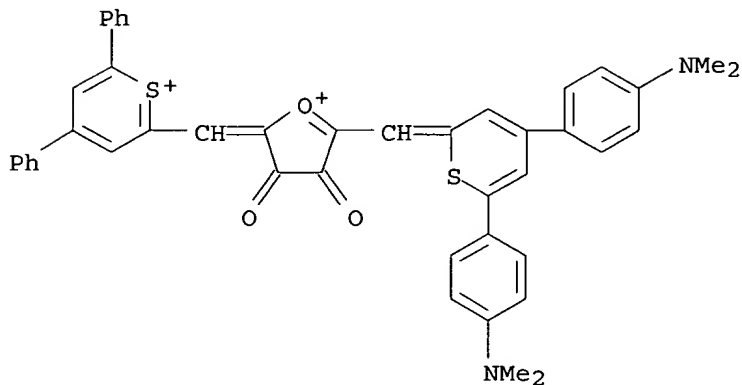
CN Pyrylium, 2-[[5-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-3,4-dihydro-3,4-dioxo-2H-furylium-2-ylidene]methyl]-4,6-diphenyl-, diiodide (9CI) (CA INDEX NAME)

● 2 I<sup>-</sup>

RN 171611-67-9 CAPLUS  
 CN Thiopyrylium, 2-[[5-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-3,4-dihydro-3,4-dioxo-2H-furylium-2-ylidene]methyl]-4,6-diphenyl-, diperchlorate (9CI) (CA INDEX NAME)

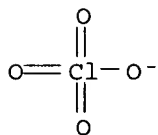
CM 1

CRN 171611-66-8  
 CMF C44 H36 N2 O3 S2

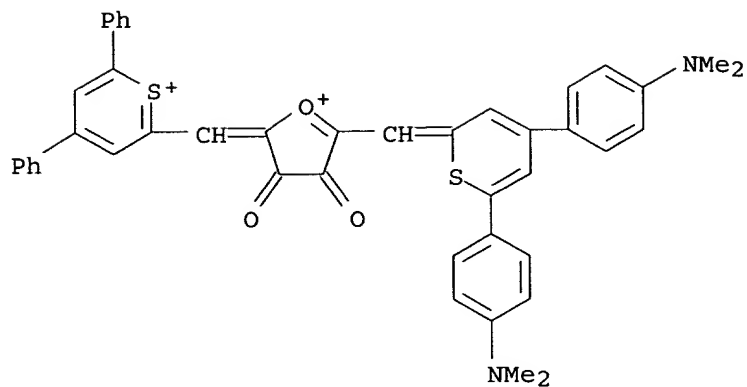


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 171611-68-0 CAPLUS  
 CN Thiopyrylium, 2-[[5-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-3,4-dihydro-3,4-dioxo-2H-furylium-2-ylidene]methyl]-4,6-diphenyl-, diiodide (9CI) (CA INDEX NAME)

● 2 I<sup>-</sup>

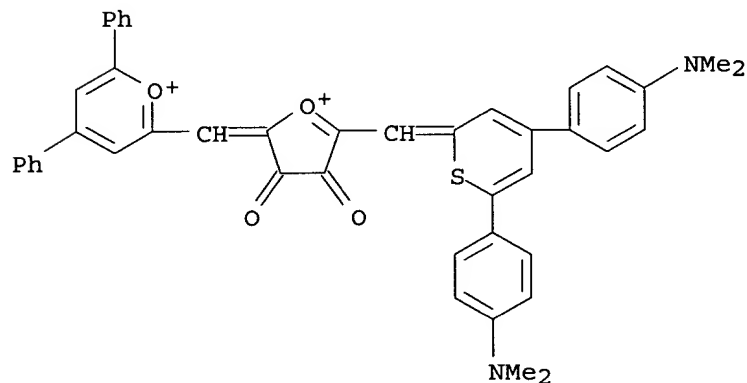
RN 171611-70-4 CAPLUS

CN Pyrylium, 2-[[5-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-3,4-dihydro-3,4-dioxo-2H-furylium-2-ylidene]methyl]-4,6-diphenyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 171611-69-1

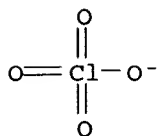
CMF C44 H36 N2 O4 S



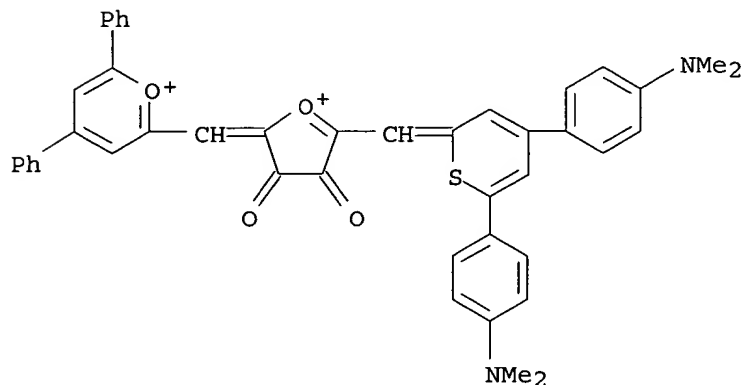
CM 2

CRN 14797-73-0

CMF Cl O4



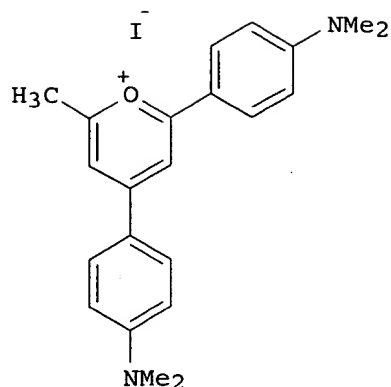
RN 171611-71-5 CAPLUS  
 CN Pirylium, 2-[[5-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-3,4-dihydro-3,4-dioxo-2H-furylium-2-ylidene]methyl]-4,6-diphenyl-, diiodide (9CI) (CA INDEX NAME)



● 2 I<sup>-</sup>

L49 ANSWER 27 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1995:777832 CAPLUS  
 DOCUMENT NUMBER: 123:221957  
 TITLE: Pharmaceutical compositions containing pyrylium compounds or pyrylium salts, process for manufacturing a medicament containing them, and use in phototherapy of cancer  
 INVENTOR(S): Okamoto, Tadashi; Yamamoto, Nobuko; Kawaguchi, Masahiro  
 PATENT ASSIGNEE(S): Canon K. K., Japan  
 SOURCE: Eur. Pat. Appl., 48 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 659407	A1	19950628	EP 1994-309453	19941216
EP 659407	B1	20010314		
R: DE, DK, FR, GB, SE				
JP 07233065	A2	19950905	JP 1994-250848	19941017
US 6124342	A	20000926	US 1997-878125	19970618
US 6242477	B1	20010605	US 1999-343941	19990630
PRIORITY APPLN. INFO.:			JP 1993-330561	A 19931227
			JP 1994-250848	A 19941017
			US 1994-363955	B1 19941227
			US 1997-878125	A3 19970618
OTHER SOURCE(S):			MARPAT 123:221957	
GI				



AB Pharmaceutical compns. are provided which contain a pyrylium compound, a thiopyrylium compound, a selenopyrylium compound or a telluropyrilium compound, or a salt of any of these compds., as active ingredient. The compds. are selectively absorbed by cancer cells or similar growths in the human or animal body and can be used to bring about destruction of the unwanted growth upon irradiation with light of wavelength 500nm to 1000nm. The invention also provides a method for the treatment of a human or animal body comprising administration of the compound and irradiation of a locus where the compound is absorbed in order to kill cells at that locus. Also provided is the use of these compds. for the making of a medicament for use in the treatment of cancer in humans and animals. Preparation of e.g. 2-methyl-4,6-bis-(4,N,N-dimethylaminophenyl)pyrilium iodide (I) is described, as is an injectable formulation of I. Effectiveness of I in phototherapy of cancer cells is also presented.

IT 151921-86-7 151921-87-8 157137-82-1  
 157137-84-3 165321-62-0 165321-63-1  
 165321-65-3 165321-66-4 165321-68-6  
 165321-69-7 165321-71-1 165321-72-2  
 165321-74-4 165321-75-5 165321-77-7  
 165321-78-8 165321-86-8 165321-87-9  
 165321-89-1 165321-90-4 165321-95-9  
 165321-96-0 165321-98-2 165321-99-3  
 165322-01-0 165322-02-1 165322-19-0  
 165322-20-3 165322-22-5 165322-23-6  
 165322-25-8 165322-26-9 165322-28-1  
 165322-29-2 165322-37-2, Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate 165322-38-3 165322-40-7  
 165322-41-8 165322-43-0 165322-44-1  
 165322-46-3 165322-47-4 165322-61-2  
 165322-62-3 165322-64-5 165322-65-6  
 165322-67-8 165322-68-9 165322-70-3  
 165322-71-4 165322-73-6 165322-74-7  
 165322-76-9 165322-77-0 165322-85-0  
 165322-86-1 165322-88-3 165322-89-4  
 165322-91-8 165322-92-9 165322-94-1  
 165322-95-2 165323-09-1 165323-10-4  
 165323-11-5 165323-13-7 165323-15-9  
 165323-16-0 165323-18-2 165323-19-3,

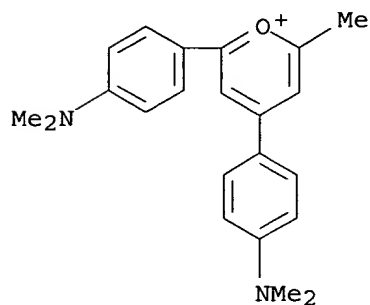
ThioPyrilium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, iodide

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(pyrylium compds. and salts, pharmaceuticals containing them, and use in phototherapy of cancer)

RN 151921-86-7 CAPLUS

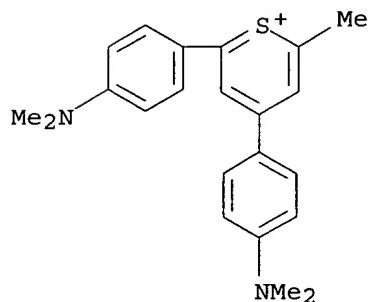
CN Pyrilyum, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 151921-87-8 CAPLUS

CN Thiopyrilyum, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 157137-82-1 CAPLUS

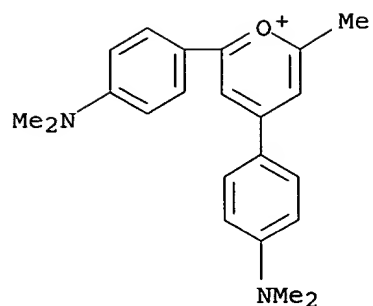
CN Pyrilyum, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 157137-81-0

CMF C22 H25 N2 O

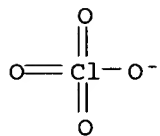




CM 2

CRN 14797-73-0

CMF Cl O4



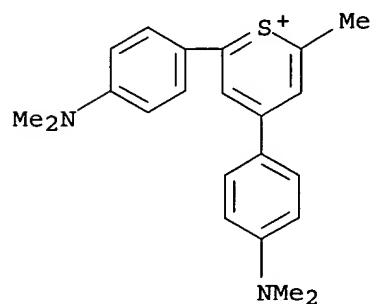
RN 157137-84-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate  
(9CI) (CA INDEX NAME)

CM 1

CRN 157137-83-2

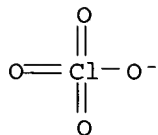
CMF C22 H25 N2 S



CM 2

CRN 14797-73-0

CMF Cl O4



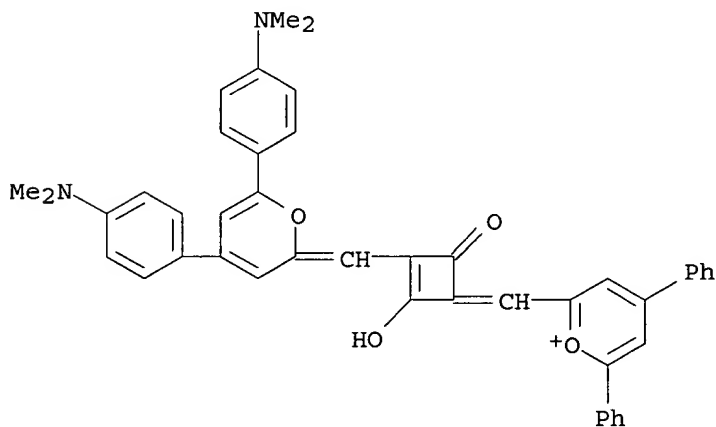
RN 165321-62-0 CAPLUS

CN Perylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 165321-61-9

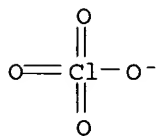
CMF C44 H37 N2 O4



CM 2

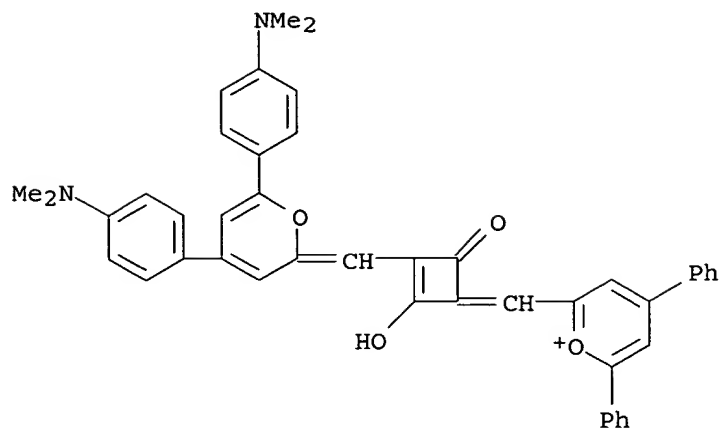
CRN 14797-73-0

CMF Cl O4



RN 165321-63-1 CAPLUS

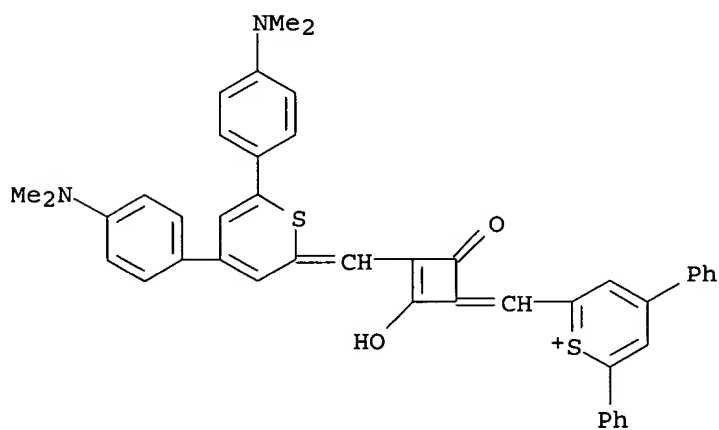
CN Perylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



RN 165321-65-3 CAPLUS  
 CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

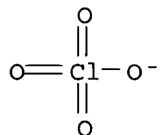
CM 1

CRN 165321-64-2  
 CMF C44 H37 N2 O2 S2



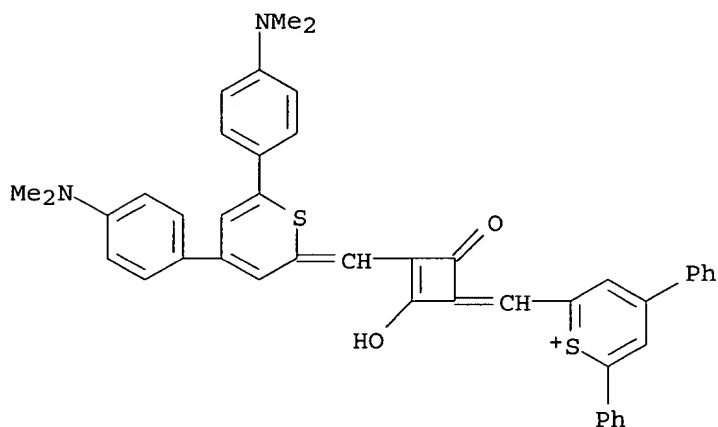
CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165321-66-4 CAPLUS

CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



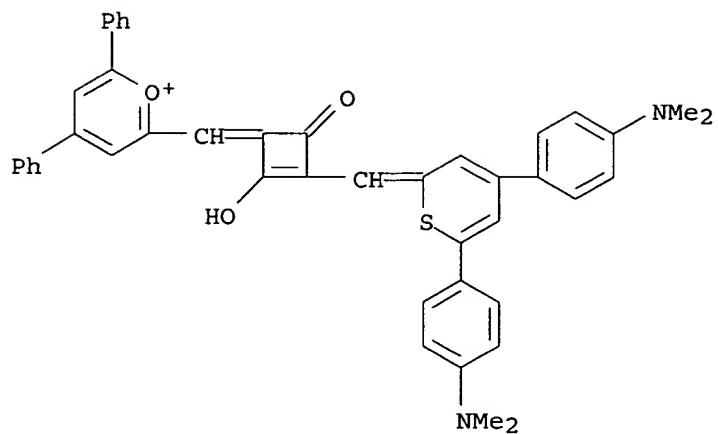
RN 165321-68-6 CAPLUS

CN Perylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 165321-67-5

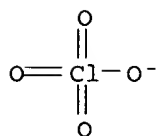
CMF C44 H37 N2 O3 S



CM 2

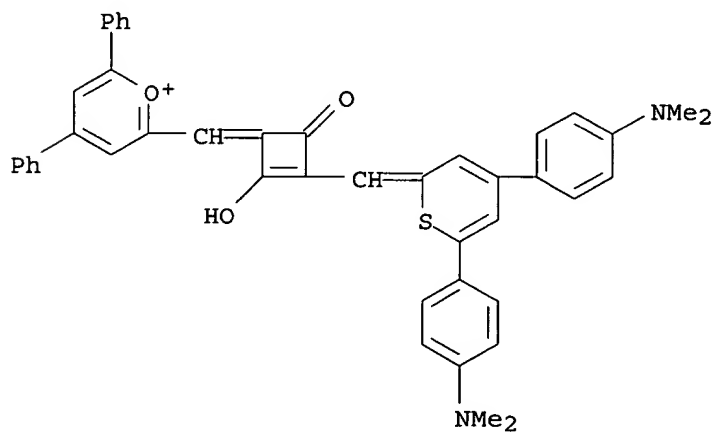
CRN 14797-73-0

CMF Cl O4



RN 165321-69-7 CAPLUS

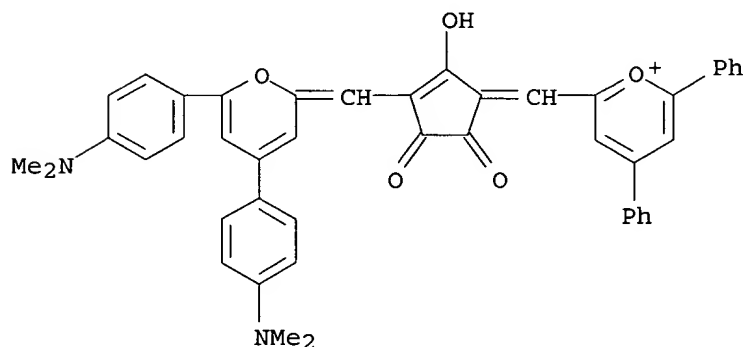
CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



RN 165321-71-1 CAPLUS  
 CN Perylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

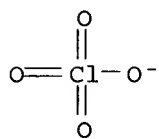
CM 1

CRN 165321-70-0  
 CMF C45 H37 N2 O5

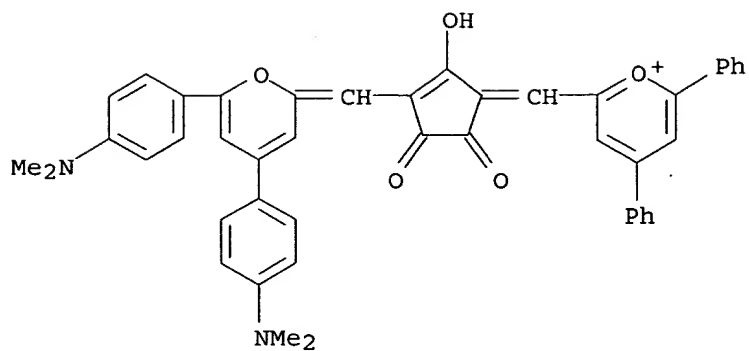


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165321-72-2 CAPLUS  
 CN Perylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



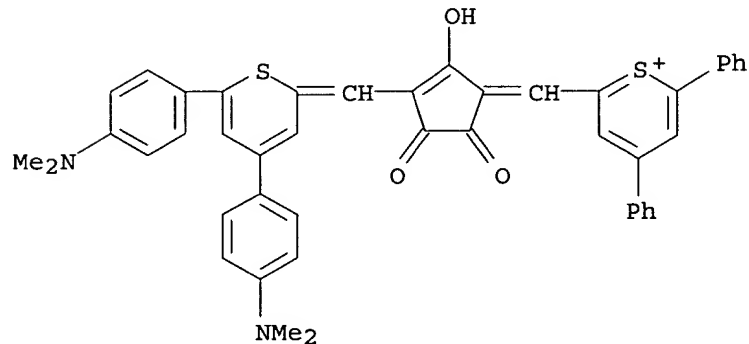
RN 165321-74-4 CAPLUS

CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 165321-73-3

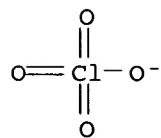
CMF C45 H37 N2 O3 S2



CM 2

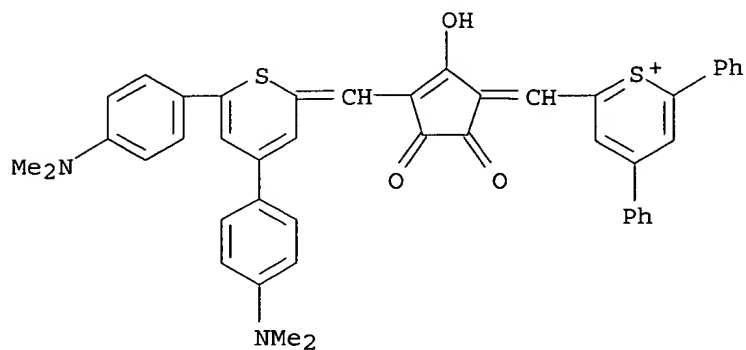
CRN 14797-73-0

CMF Cl O4



RN 165321-75-5 CAPLUS

CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



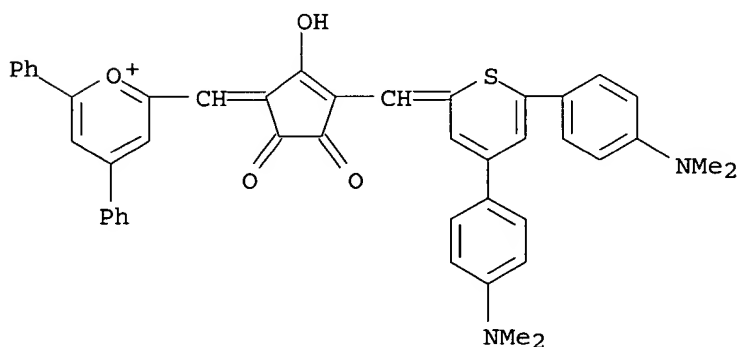
RN 165321-77-7 CAPLUS

CN Pirylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 165321-76-6

CMF C45 H37 N2 O4 S

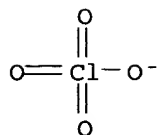


CM 2

CRN 14797-73-0

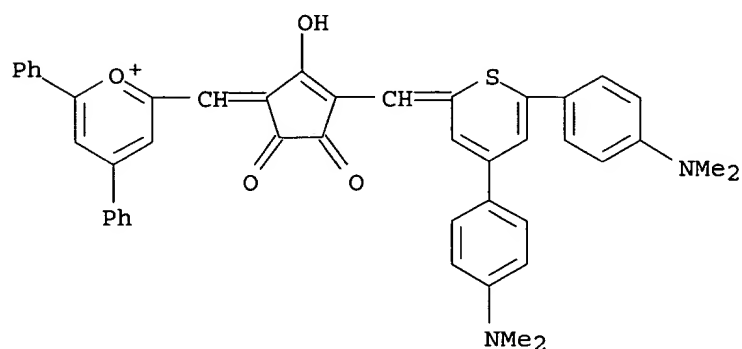
CMF C1 O4





RN 165321-78-8 CAPLUS

CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



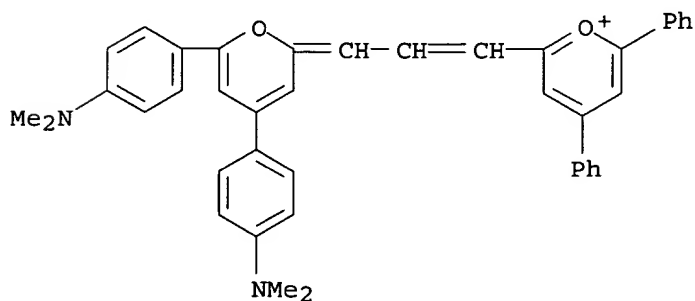
RN 165321-86-8 CAPLUS

CN Pyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-85-7

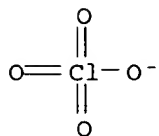
CMF C41 H37 N2 O2



CM 2

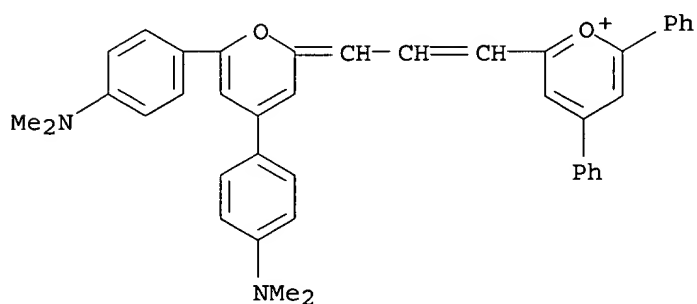
CRN 14797-73-0

CMF C1 O4



RN 165321-87-9 CAPLUS

CN Perylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



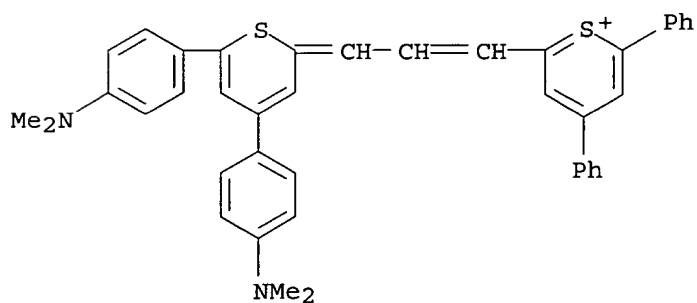
RN 165321-89-1 CAPLUS

CN Thiopyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-88-0

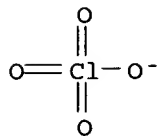
CMF C41 H37 N2 S2



CM 2

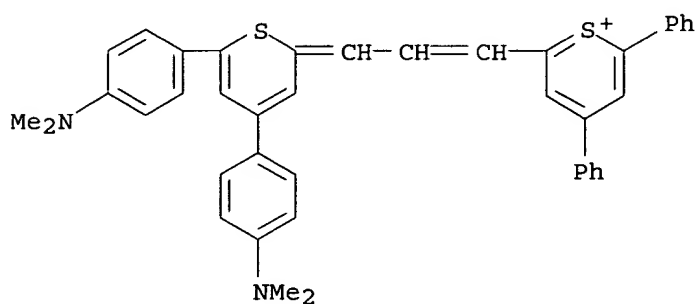
CRN 14797-73-0

CMF Cl 04



RN 165321-90-4 CAPLUS

CN Thiopyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



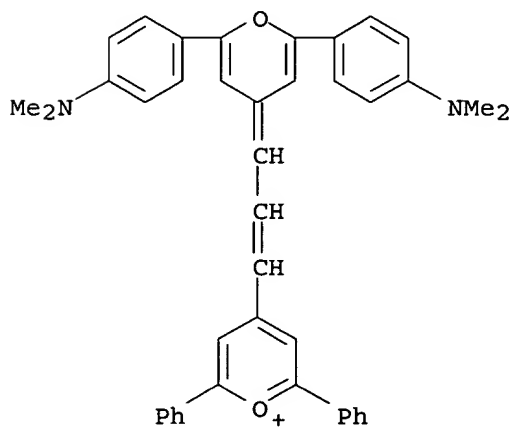
RN 165321-95-9 CAPLUS

CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-94-8

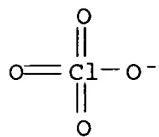
CMF C41 H37 N2 O2



CM 2

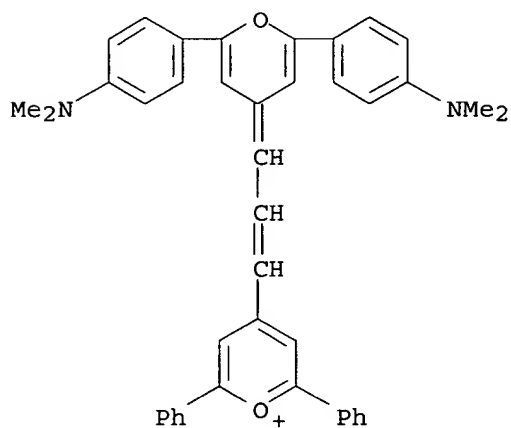
CRN 14797-73-0

CMF Cl O4



RN 165321-96-0 CAPLUS

CN Perylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



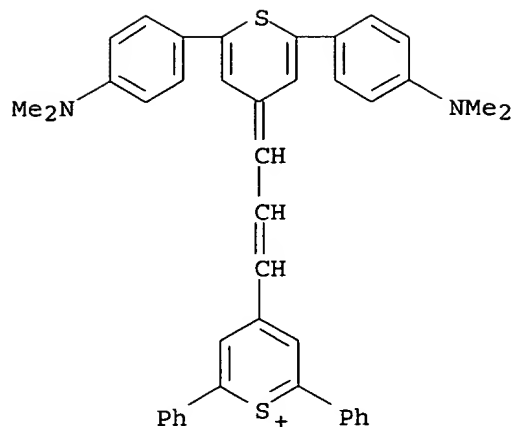
RN 165321-98-2 CAPLUS

CN Thiopyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-97-1

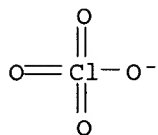
CMF C41 H37 N2 S2



CM 2

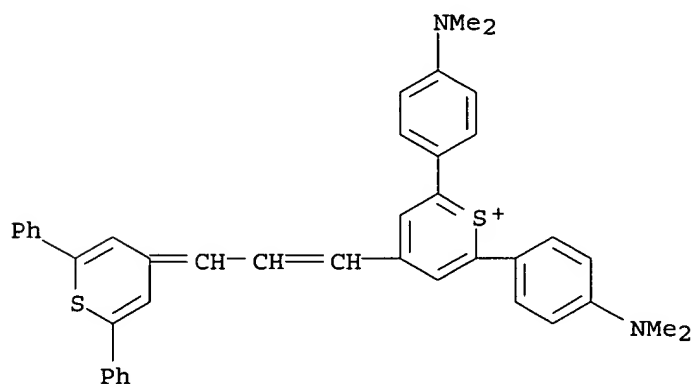
CRN 14797-73-0

CMF Cl O4



RN 165321-99-3 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[3-(2,6-diphenyl-4H-thiopyran-4-ylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



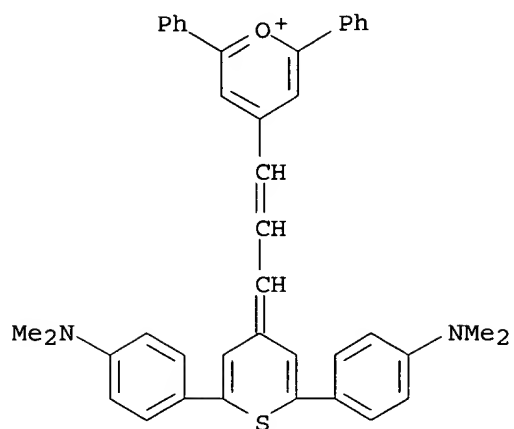
RN 165322-01-0 CAPLUS

CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-00-9

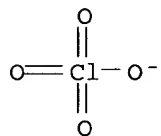
CMF C41 H37 N2 O S



CM 2

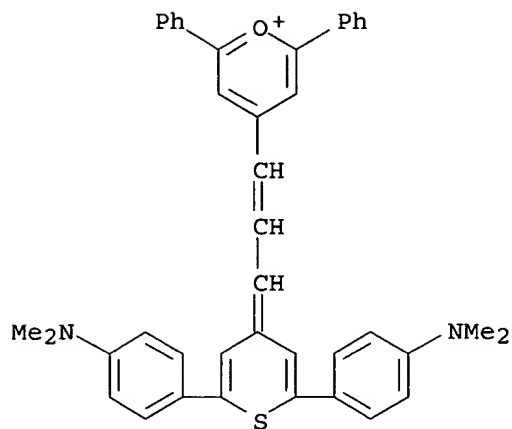
CRN 14797-73-0

CMF Cl O4



RN 165322-02-1 CAPLUS

CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



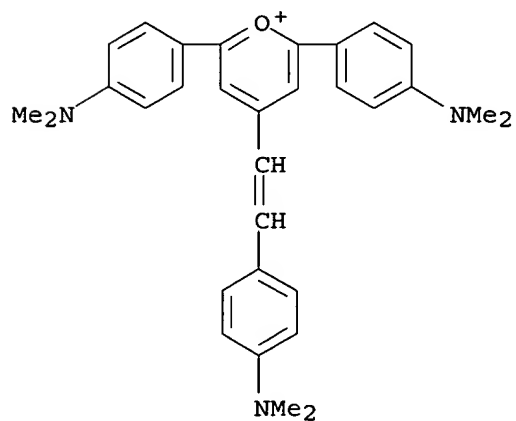
RN 165322-19-0 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-18-9

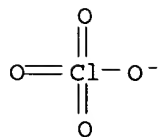
CMF C31 H34 N3 O



CM 2

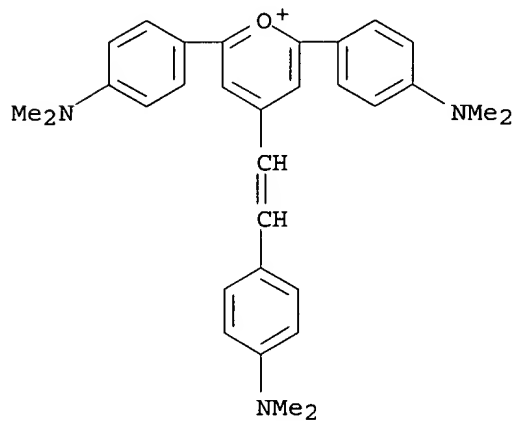
CRN 14797-73-0

CMF Cl O4



RN 165322-20-3 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



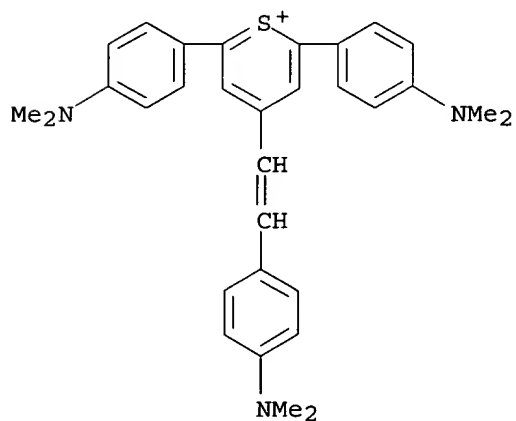
RN 165322-22-5 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-21-4

CMF C31 H34 N3 S

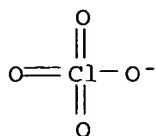




CM 2

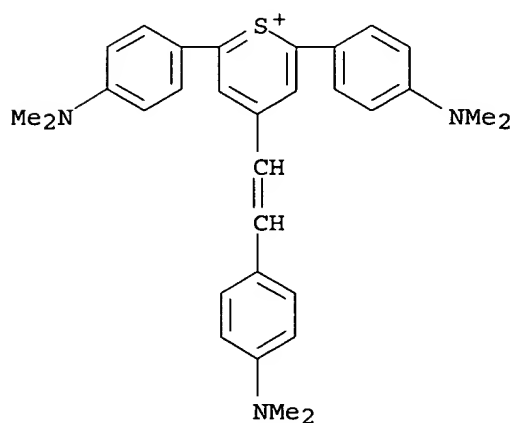
CRN 14797-73-0

CMF Cl O4



RN 165322-23-6 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



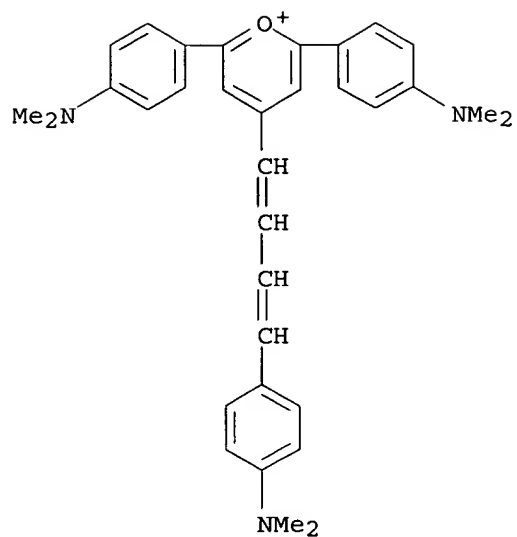
RN 165322-25-8 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-24-7

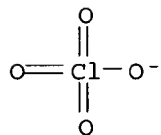
CMF C33 H36 N3 O



CM 2

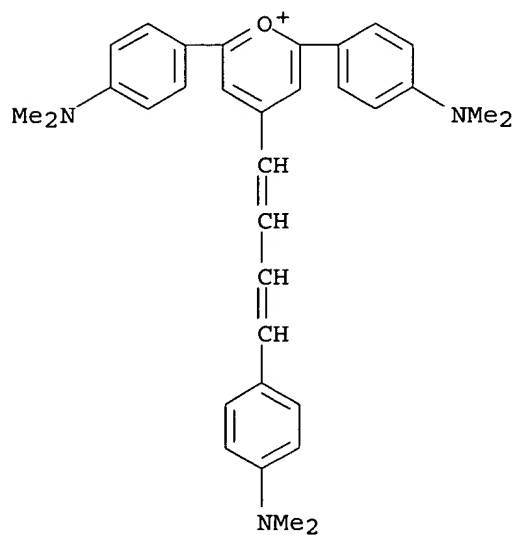
CRN 14797-73-0

CMF Cl 04



RN 165322-26-9 CAPLUS

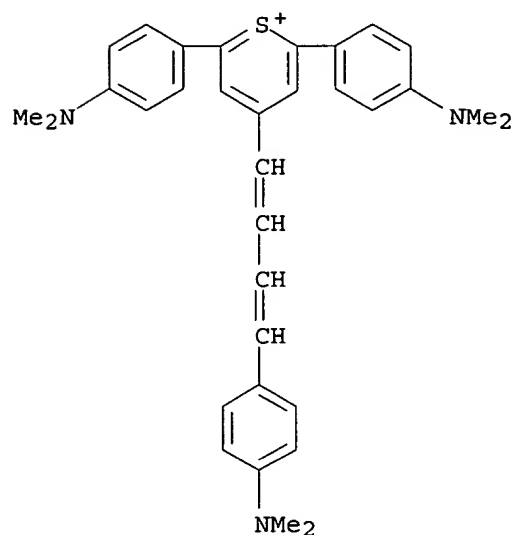
CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-28-1 CAPLUS  
 CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

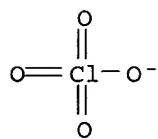
CM 1

CRN 165322-27-0  
 CMF C33 H36 N3 S

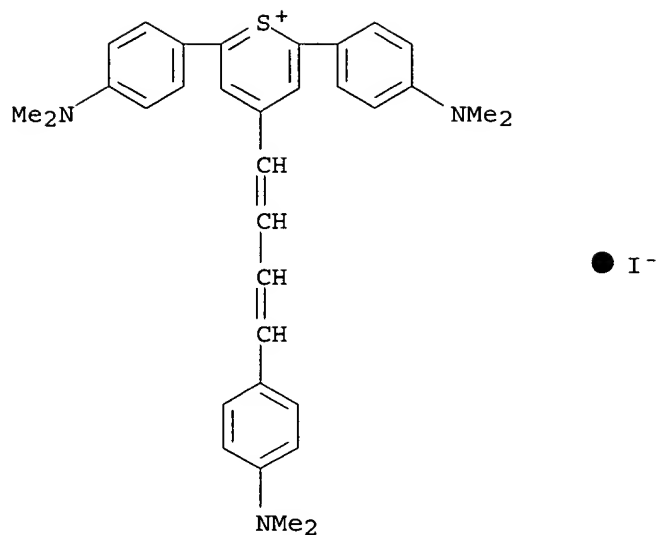


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165322-29-2 CAPLUS  
 CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)

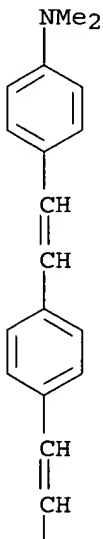


RN 165322-37-2 CAPLUS  
 CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

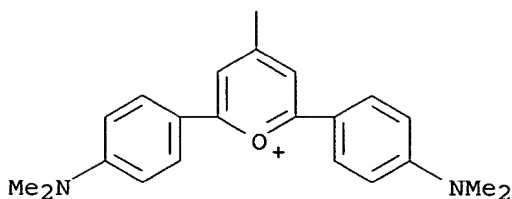
CM 1

CRN 165322-36-1  
 CMF C39 H40 N3 O

PAGE 1-A



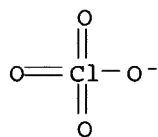
PAGE 2-A



CM 2

CRN 14797-73-0

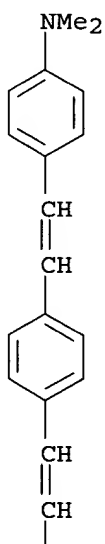
CMF Cl O4



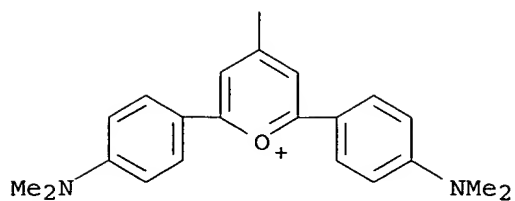
RN 165322-38-3 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

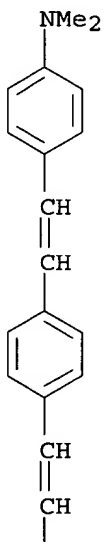


RN 165322-40-7 CAPLUS  
 CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

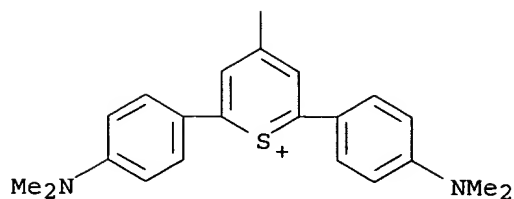
CM 1

CRN 165322-39-4  
 CMF C39 H40 N3 S

PAGE 1-A



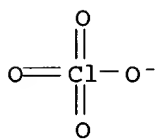
PAGE 2-A



CM 2

CRN 14797-73-0

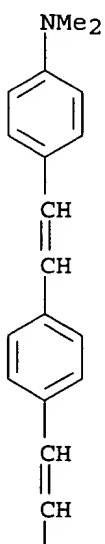
CMF Cl O4



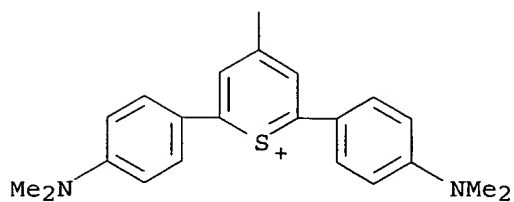
RN 165322-41-8 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



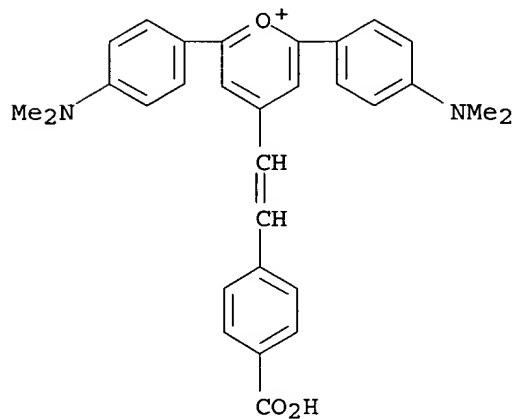
PAGE 2-A



RN 165322-43-0 CAPLUS  
 CN Pyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-  
 , perchlorate (9CI) (CA INDEX NAME)

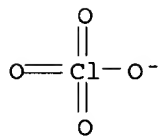
CM 1

CRN 165322-42-9  
 CMF C30 H29 N2 O3



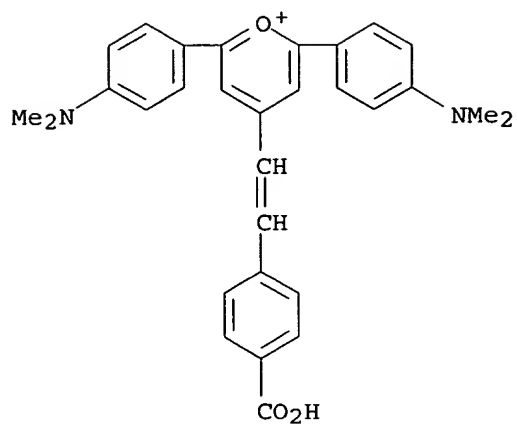
CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165322-44-1 CAPLUS  
 CN Pyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-  
 , iodide (9CI) (CA INDEX NAME)





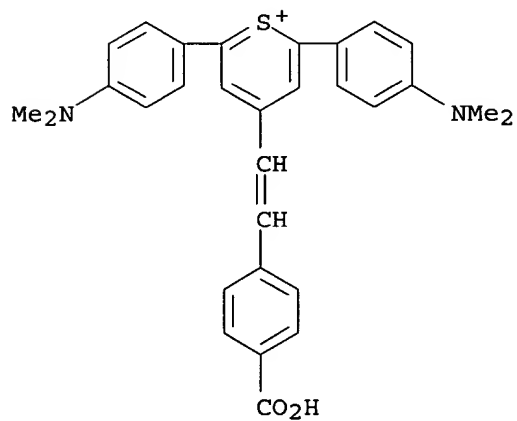
RN 165322-46-3 CAPLUS

CN Thiopyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-45-2

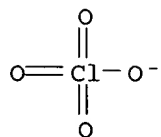
CMF C30 H29 N2 O2 S



CM 2

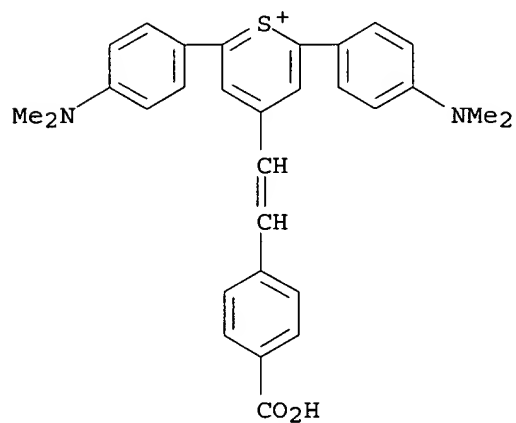
CRN 14797-73-0

CMF C1 O4



RN 165322-47-4 CAPLUS

CN Thiopyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-61-2 CAPLUS

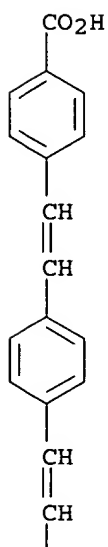
CN Pyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

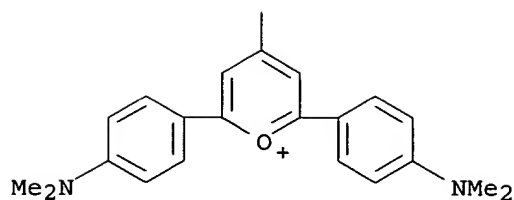
CRN 165322-60-1

CMF C38 H35 N2 O3

PAGE 1-A



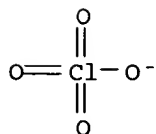
PAGE 2-A



CM 2

CRN 14797-73-0

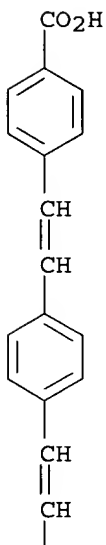
CMF Cl 04



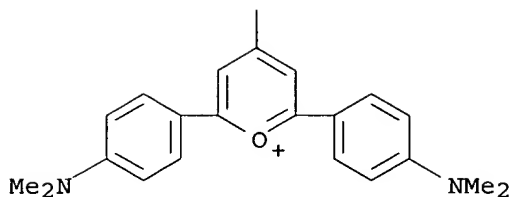
RN 165322-62-3 CAPLUS

CN Pyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

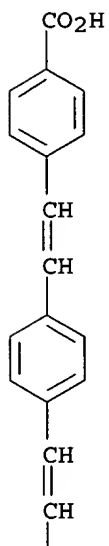


RN 165322-64-5 CAPLUS  
CN Thiopyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

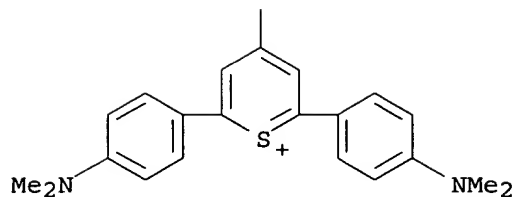
CM 1

CRN 165322-63-4  
CMF C38 H35 N2 O2 S

PAGE 1-A



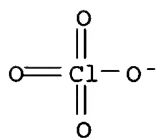
PAGE 2-A



CM 2

CRN 14797-73-0

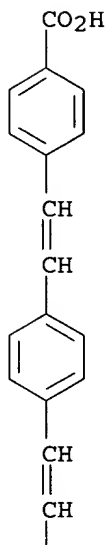
CMF Cl O4



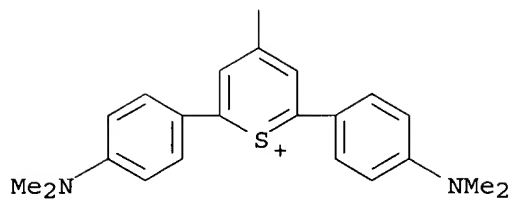
RN 165322-65-6 CAPLUS

CN Thiopyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



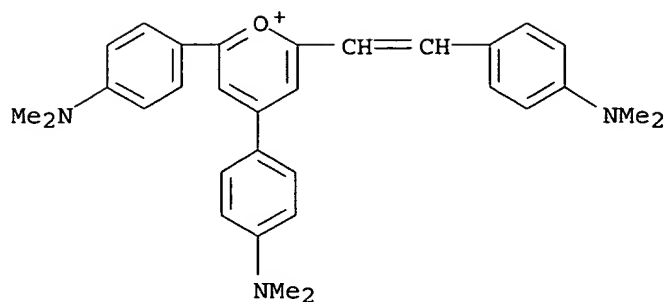
PAGE 2-A



RN 165322-67-8 CAPLUS  
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

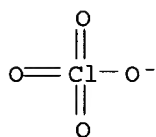
CRN 165322-66-7  
CMF C31 H34 N3 O



CM 2

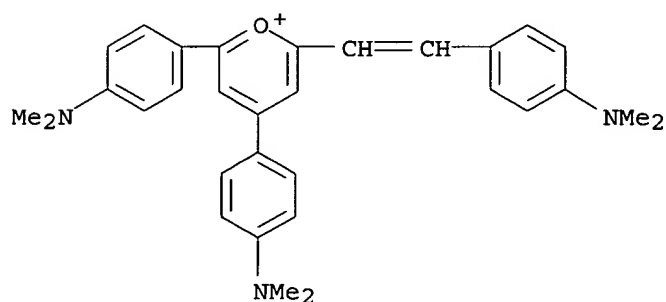
CRN 14797-73-0

CMF Cl O4



RN 165322-68-9 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



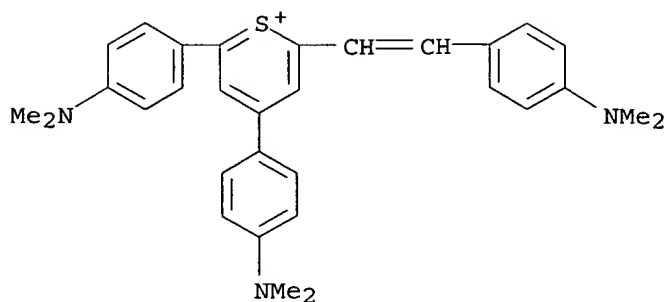
RN 165322-70-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-69-0

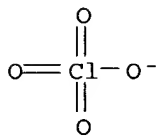
CMF C31 H34 N3 S



CM 2

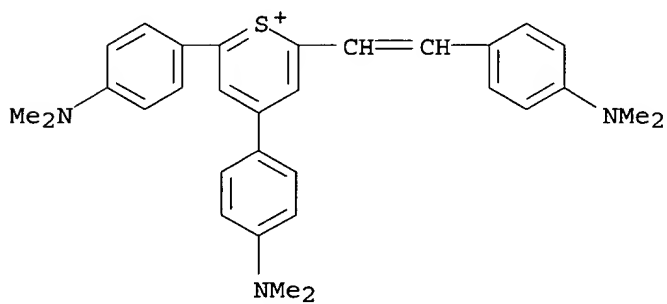
CRN 14797-73-0

CMF C1 O4



RN 165322-71-4 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-73-6 CAPLUS

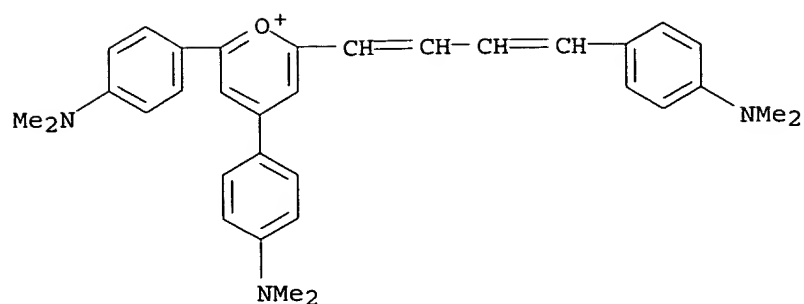
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-72-5

CMF C33 H36 N3 O

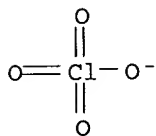




CM 2

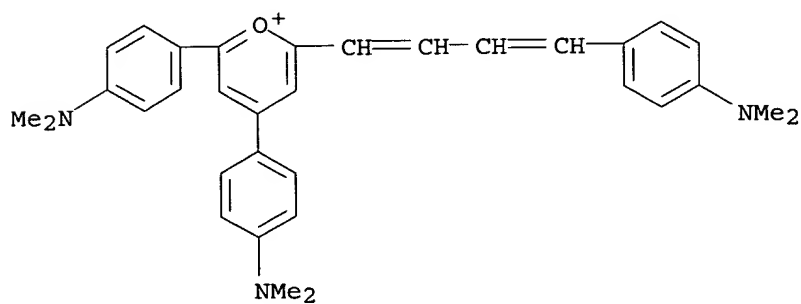
CRN 14797-73-0

CMF Cl O4



RN 165322-74-7 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

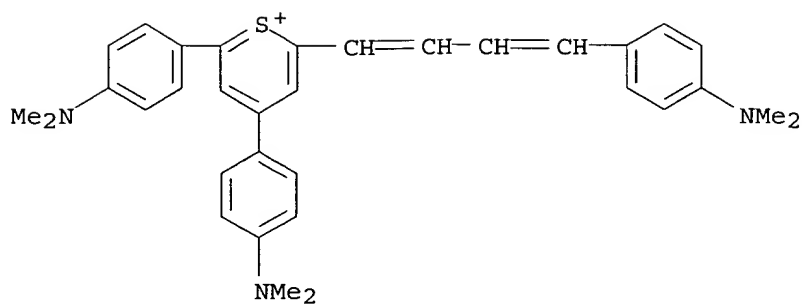
RN 165322-76-9 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-75-8

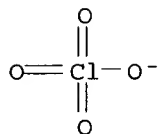
CMF C33 H36 N3 S



CM 2

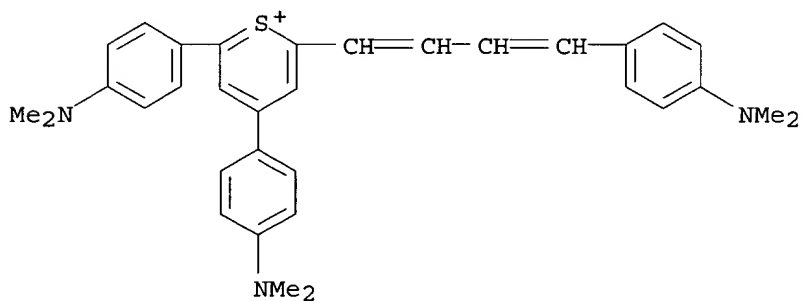
CRN 14797-73-0

CMF Cl 04



RN 165322-77-0 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)



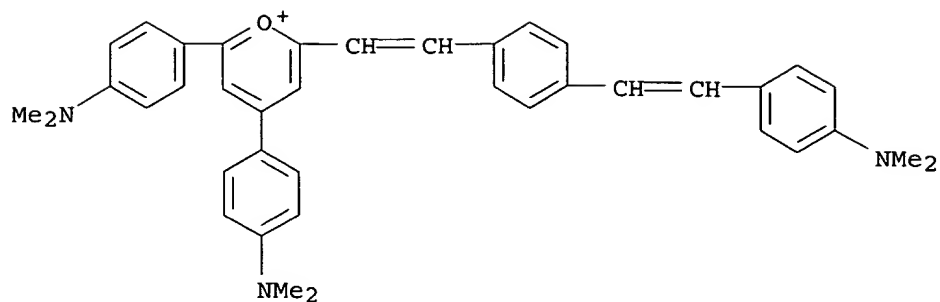
RN 165322-85-0 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-84-9

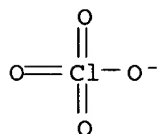
CMF C39 H40 N3 O



CM 2

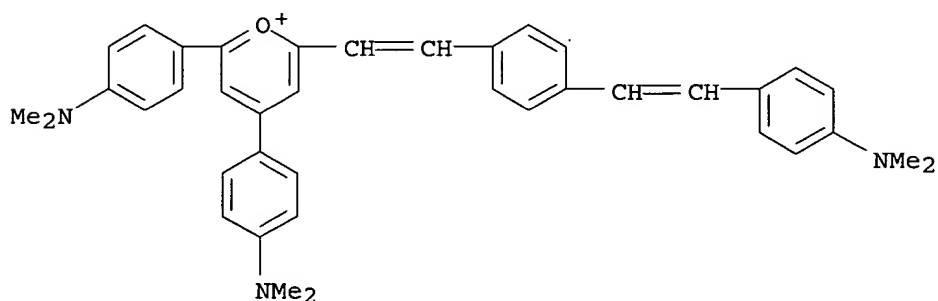
CRN 14797-73-0

CMF Cl 04



RN 165322-86-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)

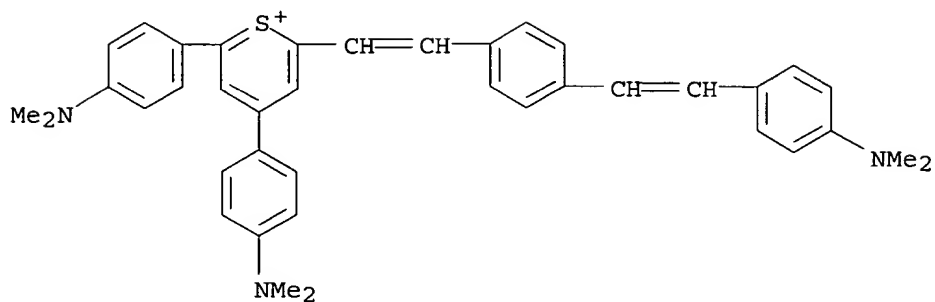


RN 165322-88-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

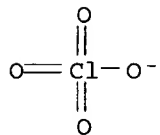
CM 1

CRN 165322-87-2  
CMF C39 H40 N3 S

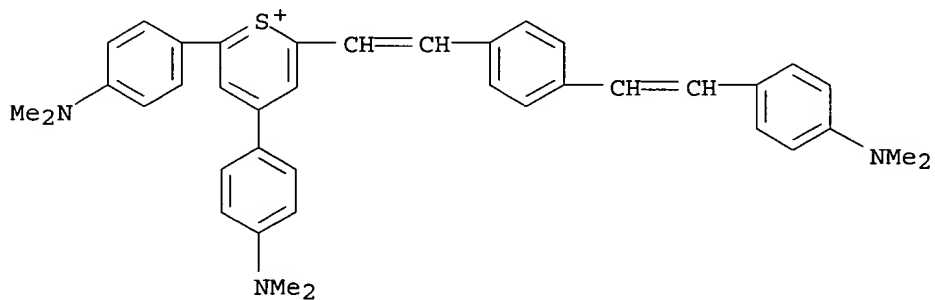


CM 2

CRN 14797-73-0  
CMF Cl O4



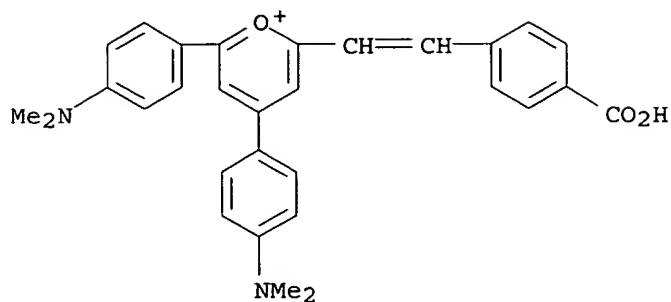
RN 165322-89-4 CAPLUS  
CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-91-8 CAPLUS  
CN Pyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

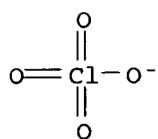
CM 1

CRN 165322-90-7  
CMF C30 H29 N2 O3

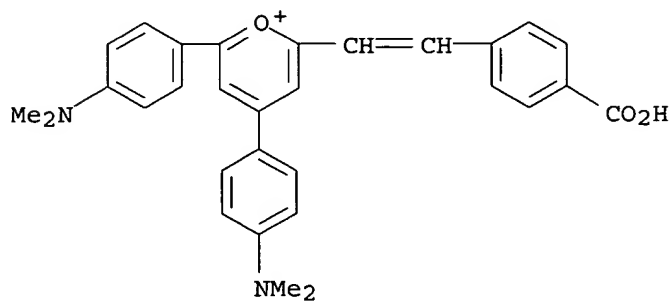


CM 2

CRN 14797-73-0  
CMF Cl O4



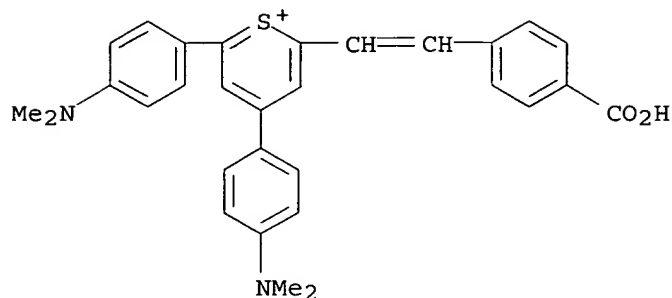
RN 165322-92-9 CAPLUS  
CN Pyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-94-1 CAPLUS  
CN Thiopyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

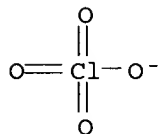
CM 1

CRN 165322-93-0  
CMF C30 H29 N2 O2 S

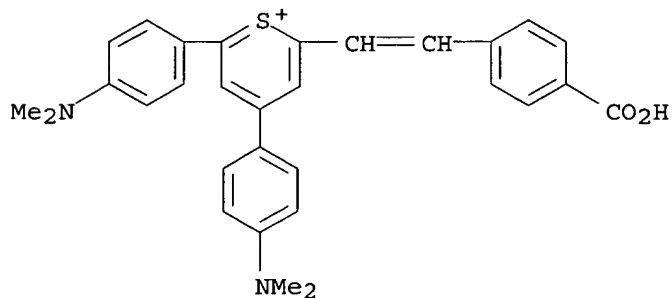


CM 2

CRN 14797-73-0  
CMF Cl O4



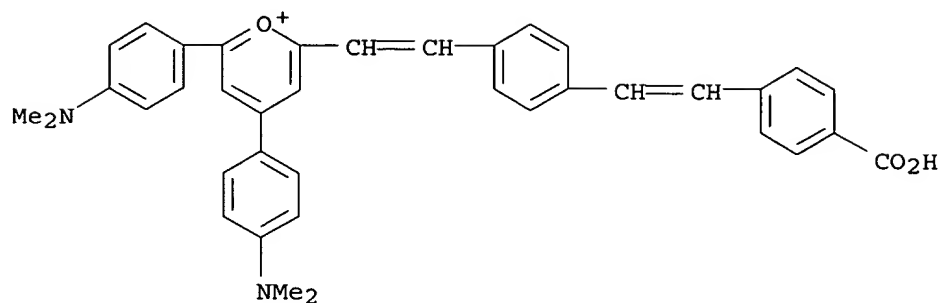
RN 165322-95-2 CAPLUS  
CN Thiopyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165323-09-1 CAPLUS  
CN Pyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

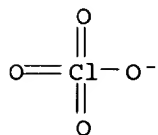
CM 1

CRN 165323-08-0  
CMF C38 H35 N2 O3

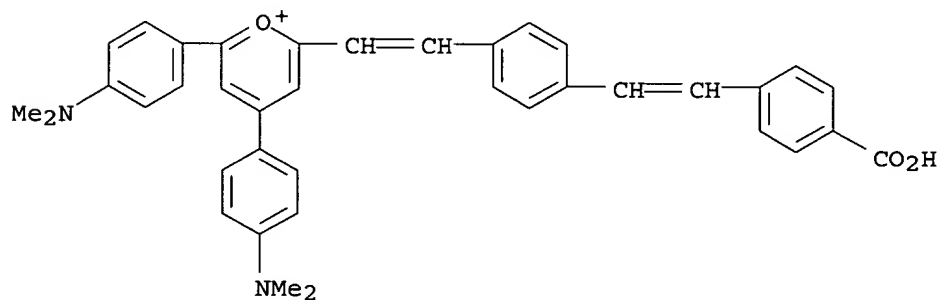


CM 2

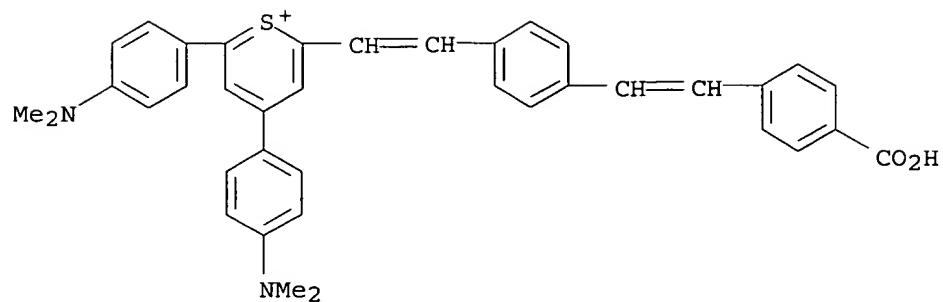
CRN 14797-73-0  
CMF Cl O4



RN 165323-10-4 CAPLUS  
CN Pyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



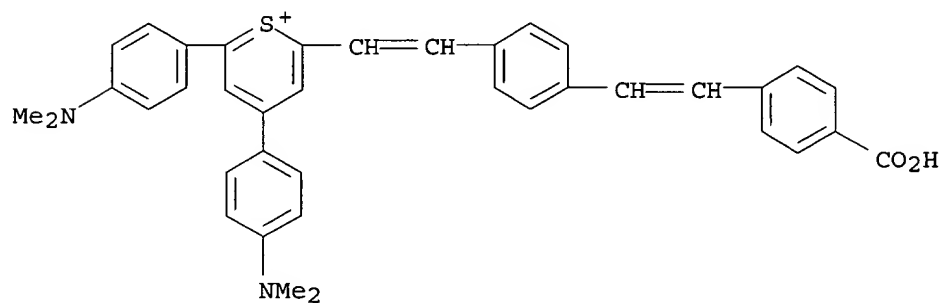
RN 165323-11-5 CAPLUS  
CN Thiopyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165323-13-7 CAPLUS  
 CN Thiopyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

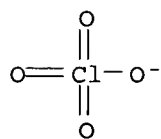
CM 1

CRN 165323-12-6  
 CMF C38 H35 N2 O2 S



CM 2

CRN 14797-73-0  
 CMF Cl O4

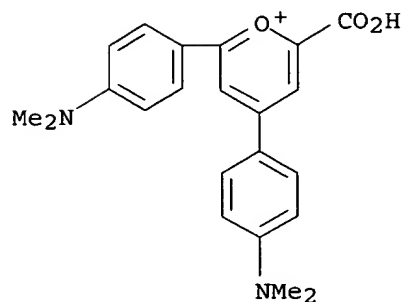


RN 165323-15-9 CAPLUS  
 CN Pyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

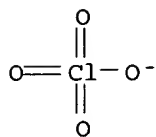


CRN 165323-14-8  
CMF C22 H23 N2 O3

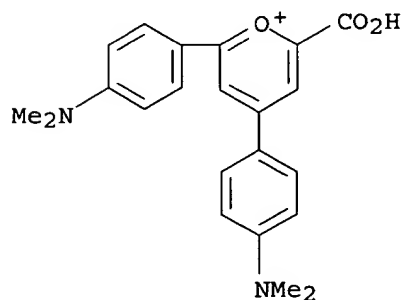


CM 2

CRN 14797-73-0  
CMF Cl O4



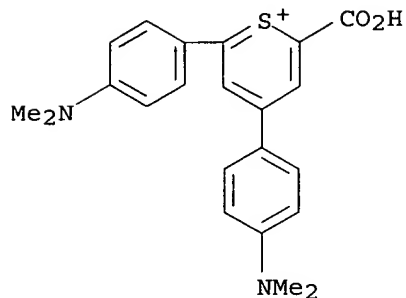
RN 165323-16-0 CAPLUS  
CN Pyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165323-18-2 CAPLUS  
CN Thiopyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

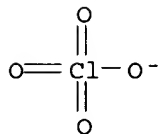
CM 1

CRN 165323-17-1  
CMF C22 H23 N2 O2 S

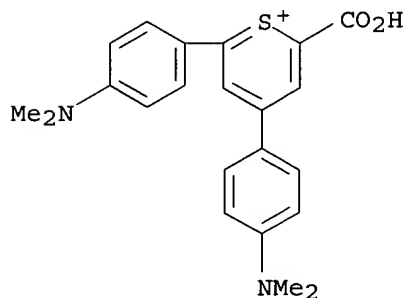


CM 2

CRN 14797-73-0  
CMF Cl O4



RN 165323-19-3 CAPLUS  
CN Thiopyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI)  
(CA INDEX NAME)



● I<sup>-</sup>

L49 ANSWER 28 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1995:698800 CAPLUS  
DOCUMENT NUMBER: 123:104331  
TITLE: fluorescent dye compound preparation for use in PCR

INVENTOR(S): kit to determine nucleic acids and to determine number  
 of microbial cells, cancer cells, or gene copies  
 Yamamoto, Nobuko; Okamoto, Tadashi; Tomida, Yoshinori;  
 Yano, Tetsuya; Miyazaki, Takeshi; Kawaguchi, Masahiro  
 PATENT ASSIGNEE(S): Canon K. K., Japan  
 SOURCE: Eur. Pat. Appl., 76 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 643140	A1	19950315	EP 1994-109568	19940621
EP 643140	B1	20011031		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 07163399	A2	19950627	JP 1994-22895	19940221
JP 3683913	B2	20050817		
CA 2126391	AA	19950314	CA 1994-2126391	19940621
CA 2126391	C	20020108		
US 5670315	A	19970923	US 1994-263072	19940621
AT 207966	E	20011115	AT 1994-109568	19940621
US 6022961	A	20000208	US 1997-782798	19970113
PRIORITY APPLN. INFO.:				
			JP 1993-227204	A 19930913
			JP 1994-22895	A 19940221
			JP 1992-340755	A 19921221
			JP 1993-49530	A 19930310
			JP 1993-266866	A 19931026
			JP 1993-318045	A 19931217
			US 1993-170689	A3 19931221

OTHER SOURCE(S): MARPAT 123:104331

AB Double-stranded nucleic acids amplified by PCR are determined and the number of  
 bacterial cells or specific genes were determined by addition of a dye compound  
 which does not fluoresce in the free state but fluoresces in the bonded  
 state to a double-stranded nucleic acid. Fluorescent dye preparation methods  
 are presented and these are also applicable to Most probable number  
 (MPN)-PCR. Examples of applications include Pseudomonas aeruginosa 16 S  
 rRNA gene determination, Escherichia coli cell number determination, and large  
 intestine

malignant cancer diagnosis.

IT 151921-86-7P 151921-87-8P 157137-82-1P  
 157137-84-3P 165321-62-0P 165321-63-1P  
 165321-65-3P 165321-66-4P 165321-68-6P  
 165321-69-7P 165321-71-1P 165321-72-2P  
 165321-74-4P 165321-75-5P 165321-77-7P  
 165321-78-8P 165321-86-8P 165321-87-9P  
 165321-89-1P 165321-90-4P 165321-92-6P  
 165321-93-7P 165321-95-9P 165321-96-0P  
 165321-98-2P 165321-99-3P 165322-01-0P  
 165322-02-1P 165322-07-6P 165322-08-7P  
 165322-10-1P 165322-11-2P 165322-19-0P  
 165322-20-3P 165322-22-5P 165322-23-6P  
 165322-25-8P 165322-26-9P 165322-28-1P  
 165322-29-2P 165322-37-2P 165322-38-3P  
 165322-40-7P 165322-41-8P 165322-43-0P  
 165322-44-1P 165322-46-3P 165322-47-4P  
 165322-49-6P 165322-50-9P 165322-52-1P  
 165322-53-2P 165322-61-2P 165322-62-3P

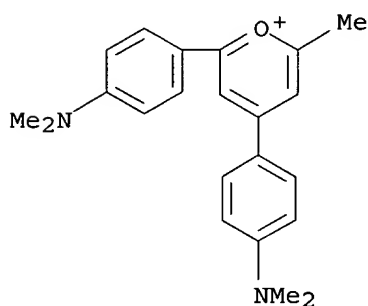
165322-64-5P 165322-65-6P 165322-67-8P  
 165322-68-9P 165322-70-3P 165322-71-4P  
 165322-73-6P 165322-74-7P 165322-76-9P  
 165322-77-0P 165322-85-0P 165322-86-1P  
 165322-88-3P 165322-89-4P 165322-91-8P  
 165322-92-9P 165322-94-1P 165322-95-2P  
 165322-97-4P 165322-98-5P 165323-00-2P  
 165323-01-3P 165323-09-1P 165323-10-4P  
 165323-11-5P 165323-13-7P 165323-15-9P  
 165323-16-0P 165323-18-2P 165323-19-3P

RL: ARG (Analytical reagent use); BPR (Biological process); BSU  
 (Biological study, unclassified); PRP (Properties); SPN (Synthetic  
 preparation); ANST (Analytical study); BIOL (Biological study); PREP  
 (Preparation); PROC (Process); USES (Uses)

(fluorescent dye; fluorescent dye compound preparation for use in PCR kit to  
 determine nucleic acids and to determine number of microbial cells, cancer  
 cells, or  
 gene copies)

RN 151921-86-7 CAPLUS

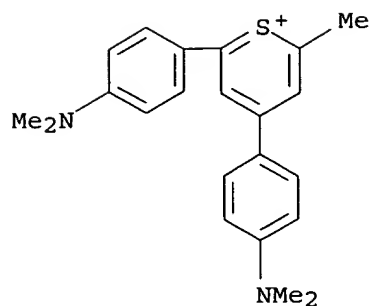
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA  
 INDEX NAME)



● I<sup>-</sup>

RN 151921-87-8 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI)  
 (CA INDEX NAME)



● I<sup>-</sup>

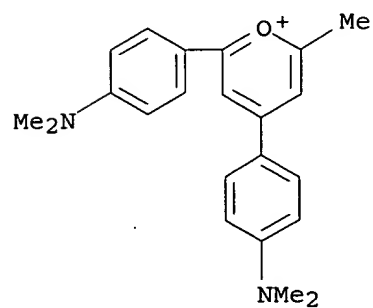
RN 157137-82-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 157137-81-0

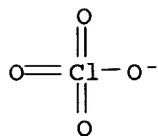
CMF C22 H25 N2 O



CM 2

CRN 14797-73-0

CMF Cl O4

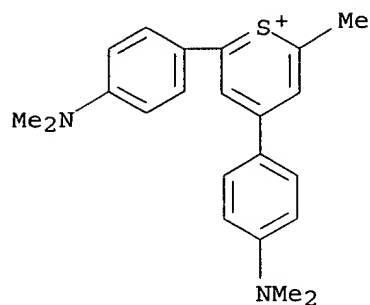


RN 157137-84-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate  
(9CI) (CA INDEX NAME)

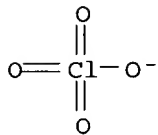
CM 1

CRN 157137-83-2  
CMF C22 H25 N2 S



CM 2

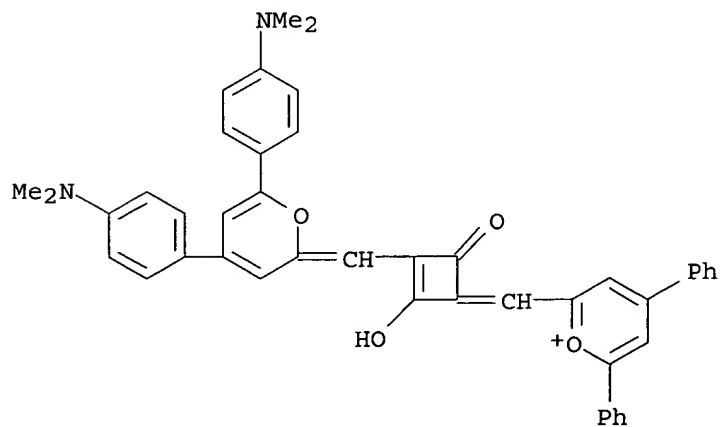
CRN 14797-73-0  
CMF Cl O4



RN 165321-62-0 CAPLUS  
CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

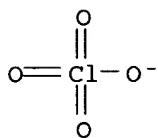
CRN 165321-61-9  
CMF C44 H37 N2 O4



CM 2

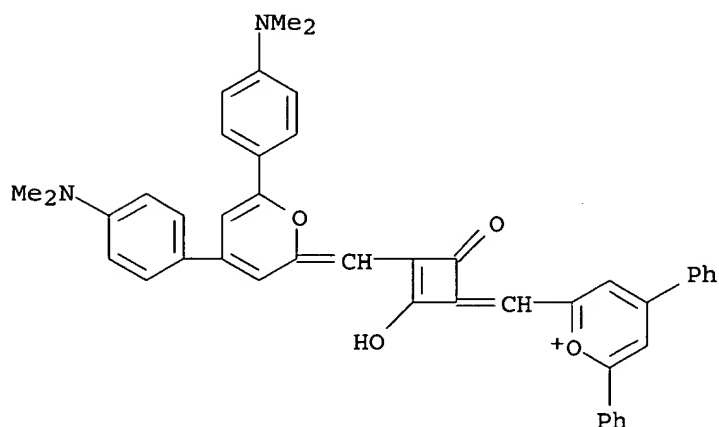
CRN 14797-73-0

CMF Cl O4



RN 165321-63-1 CAPLUS

CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



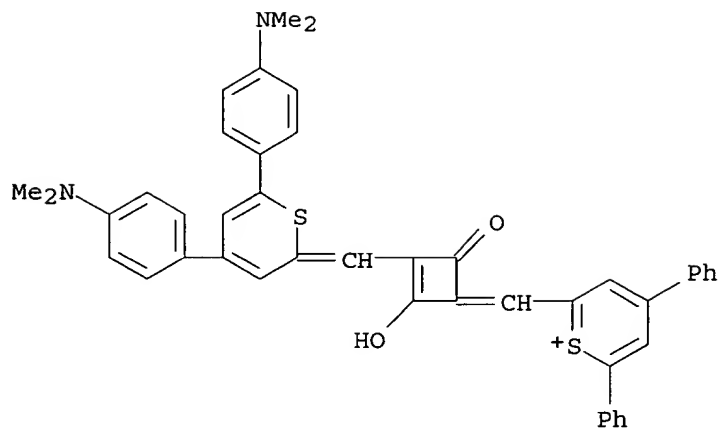
RN 165321-65-3 CAPLUS

CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 165321-64-2

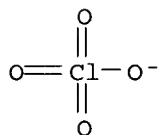
CMF C44 H37 N2 O2 S2



CM 2

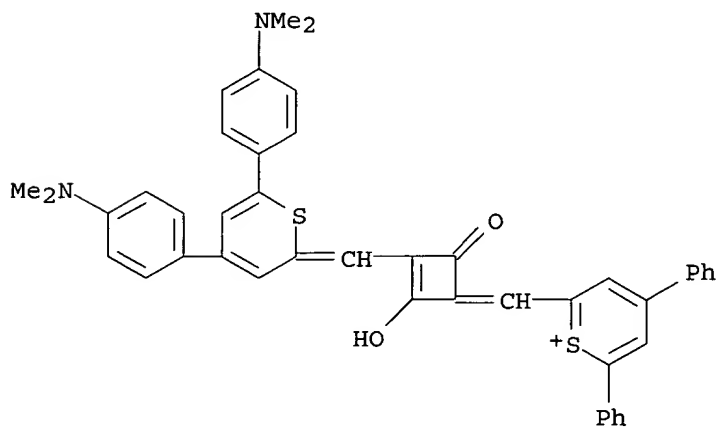
CRN 14797-73-0

CMF Cl O4



RN 165321-66-4 CAPLUS

CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)

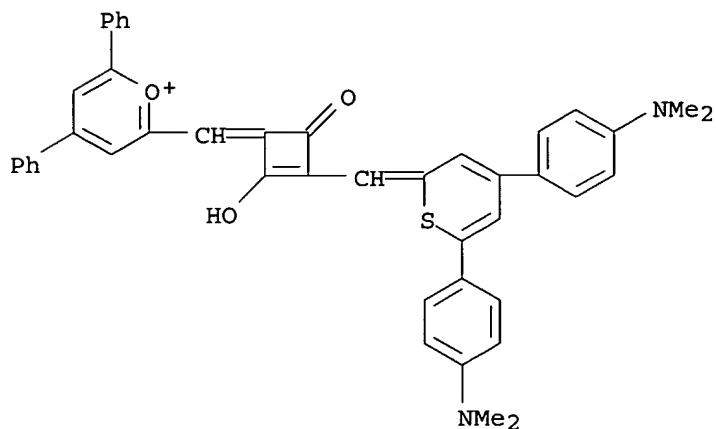




RN 165321-68-6 CAPLUS  
 CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

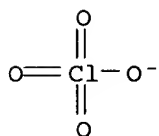
CM 1

CRN 165321-67-5  
 CMF C44 H37 N2 O3 S

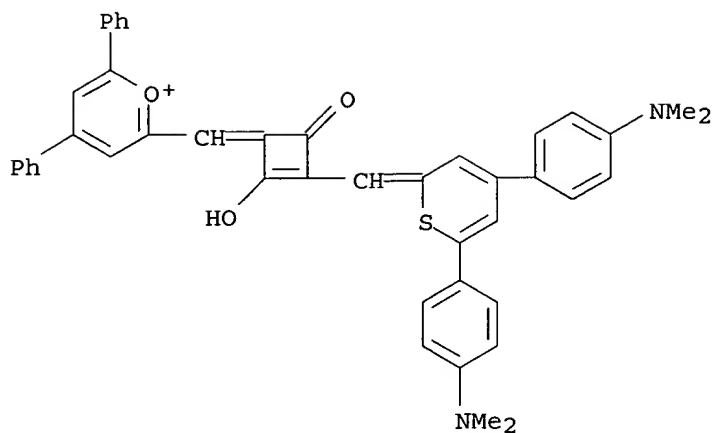


CM 2

CRN 14797-73-0  
 CMF Cl O4



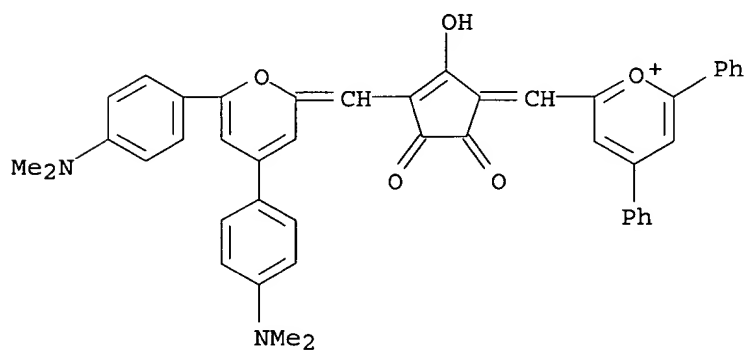
RN 165321-69-7 CAPLUS  
 CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4-oxo-2-cyclobuten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



RN 165321-71-1 CAPLUS  
 CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

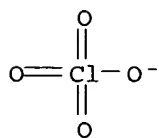
CM 1

CRN 165321-70-0  
 CMF C45 H37 N2 O5

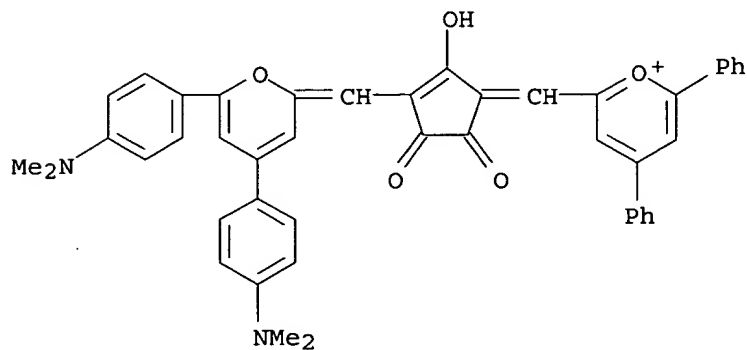


CM 2

CRN 14797-73-0  
 CMF C1 O4



RN 165321-72-2 CAPLUS  
 CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)

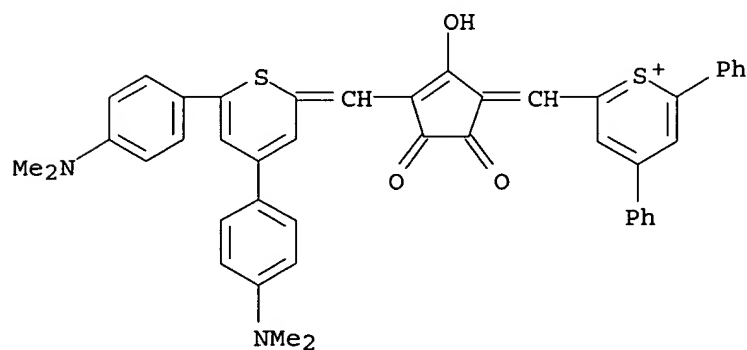


RN 165321-74-4 CAPLUS  
 CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 165321-73-3

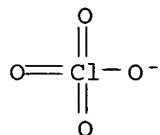
CMF C45 H37 N2 O3 S2



CM 2

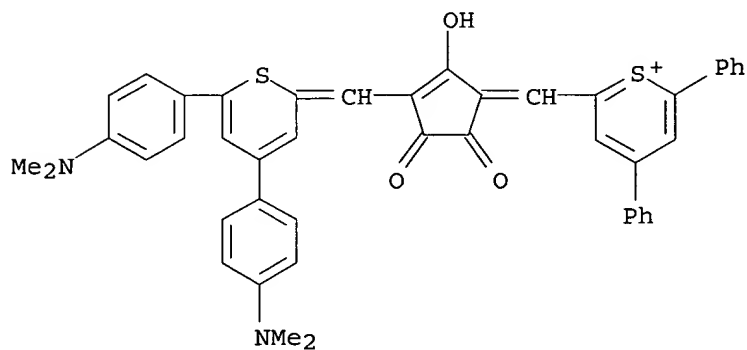
CRN 14797-73-0

CMF Cl O4



RN 165321-75-5 CAPLUS

CN Thiopyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



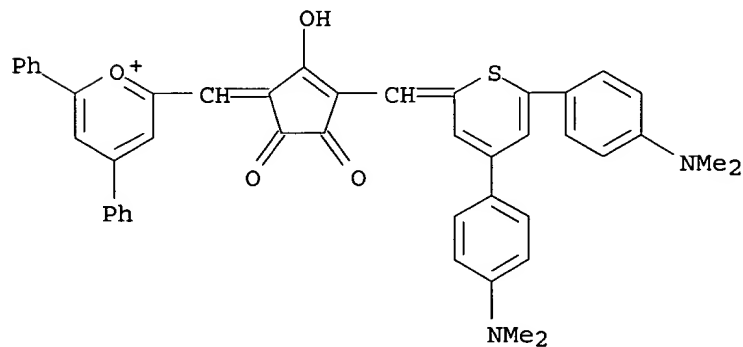
RN 165321-77-7 CAPLUS

CN Perylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

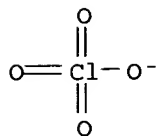
CRN 165321-76-6

CMF C45 H37 N2 O4 S

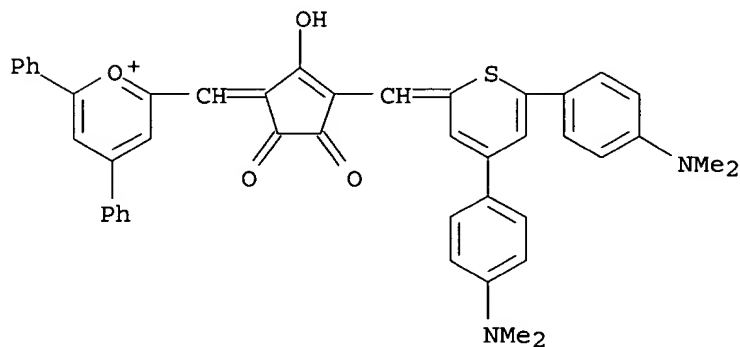


CM 2

CRN 14797-73-0  
CMF Cl O4



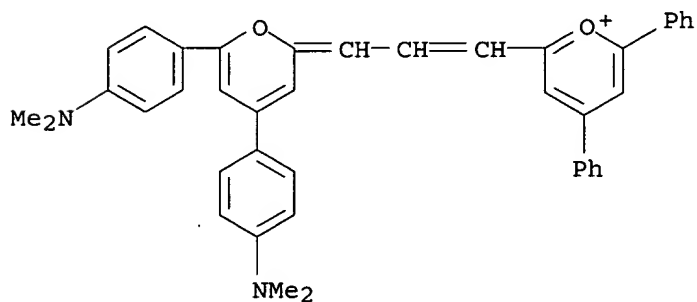
RN 165321-78-8 CAPLUS  
CN Pyrylium, 2-[[3-[[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]methyl]-2-hydroxy-4,5-dioxo-2-cyclopenten-1-ylidene]methyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



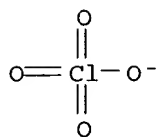
RN 165321-86-8 CAPLUS  
CN Pyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

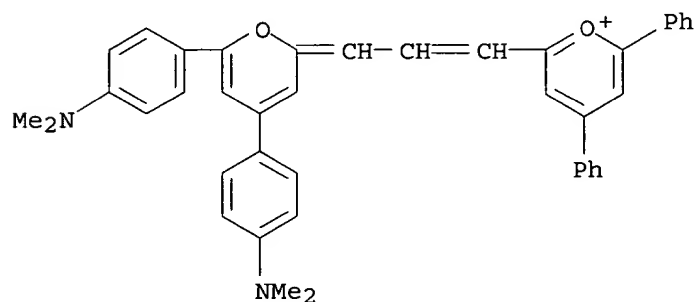
CRN 165321-85-7  
CMF C41 H37 N2 O2



CMF C1 O4

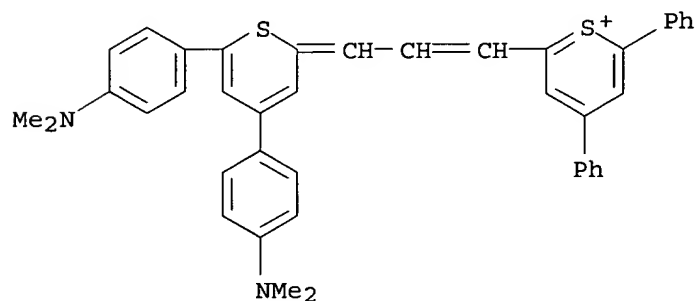


CN      Pyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-pyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, iodide (9CI)    (CA INDEX NAME)



CN Thiopyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

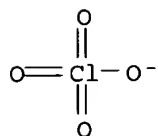
CMF C41 H37 N2 S2



CM 2

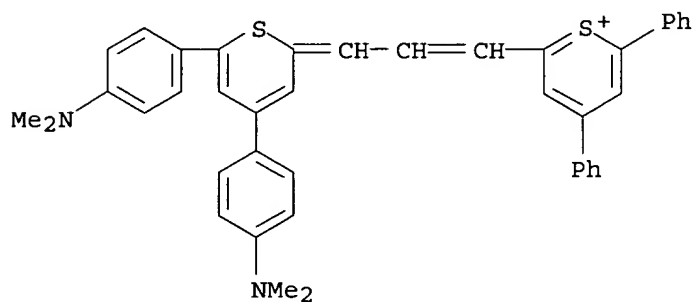
CRN 14797-73-0

CMF Cl O4



RN 165321-90-4 CAPLUS

CN Thiopyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



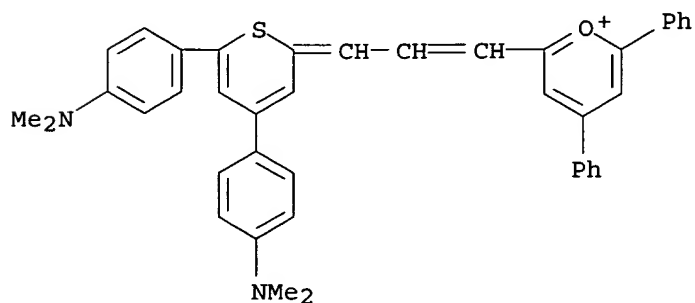
RN 165321-92-6 CAPLUS

CN Pyrylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-91-5

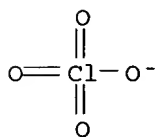
CMF C41 H37 N2 O S



CM 2

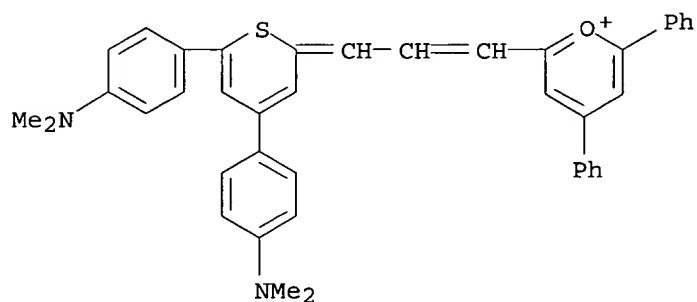
CRN 14797-73-0

CMF Cl O4



RN 165321-93-7 CAPLUS

CN Perylium, 2-[3-[4,6-bis[4-(dimethylamino)phenyl]-2H-thiopyran-2-ylidene]-1-propenyl]-4,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



RN 165321-95-9 CAPLUS

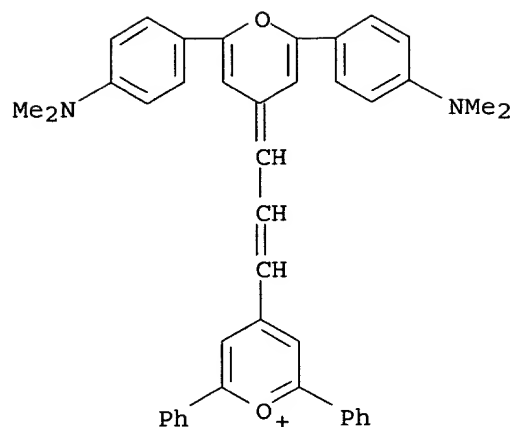
CN Perylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-94-8

CMF C41 H37 N2 O2

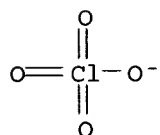




CM 2

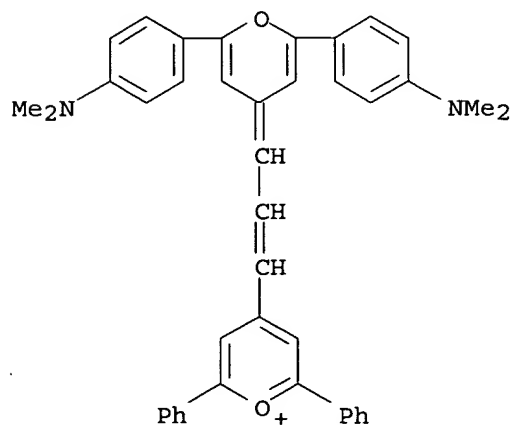
CRN 14797-73-0

CMF Cl O4



RN 165321-96-0 CAPLUS

CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



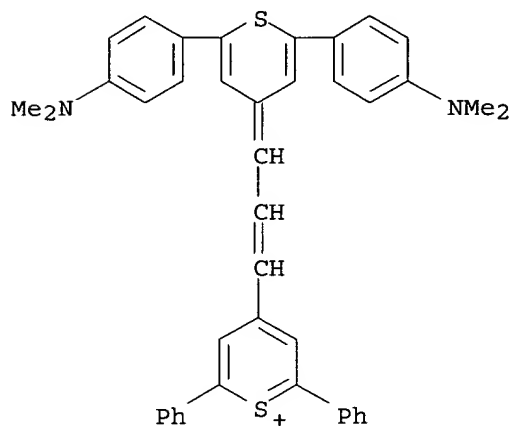
RN 165321-98-2 CAPLUS

CN Thiopyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165321-97-1

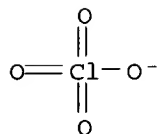
CMF C41 H37 N2 S2



CM 2

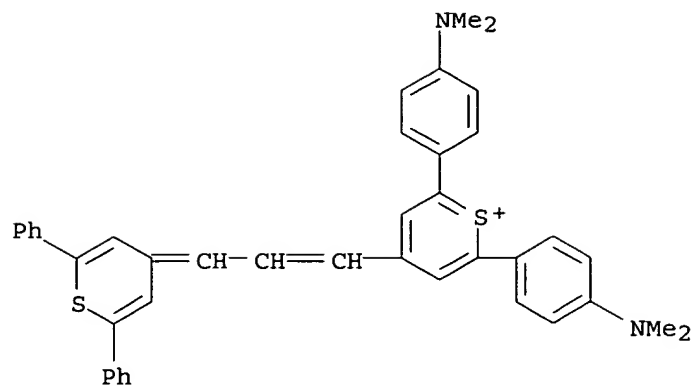
CRN 14797-73-0

CMF Cl O4



RN 165321-99-3 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[3-(2,6-diphenyl-4H-thiopyran-4-ylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



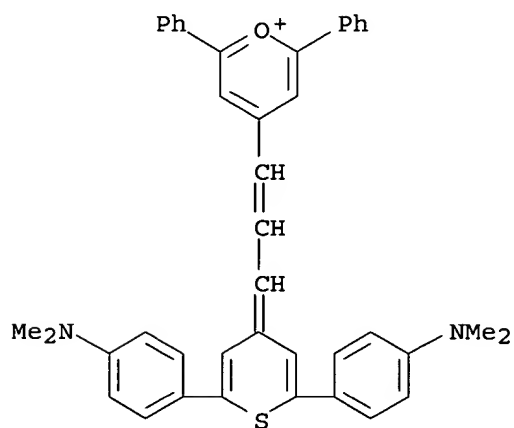
RN 165322-01-0 CAPLUS

CN Pyrylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-00-9

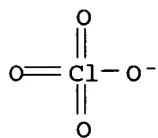
CMF C41 H37 N2 O S



CM 2

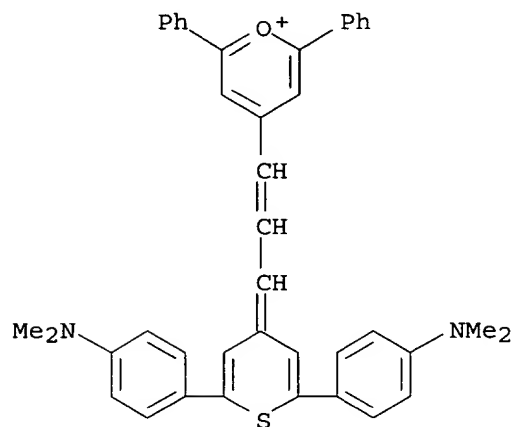
CRN 14797-73-0

CMF Cl O4



RN 165322-02-1 CAPLUS

CN Perylium, 4-[3-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-1-propenyl]-2,6-diphenyl-, iodide (9CI) (CA INDEX NAME)



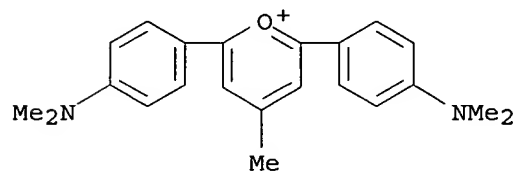
RN 165322-07-6 CAPLUS

CN Perylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-06-5

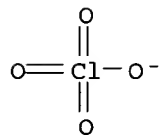
CMF C22 H25 N2 O



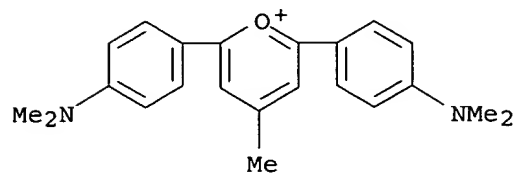
CM 2

CRN 14797-73-0

CMF Cl O4



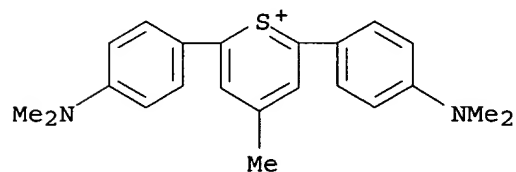
RN 165322-08-7 CAPLUS  
 CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI) (CA INDEX NAME)



RN 165322-10-1 CAPLUS  
 CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate (9CI) (CA INDEX NAME)

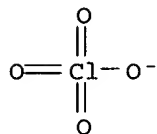
CM 1

CRN 165322-09-8  
 CMF C22 H25 N2 S

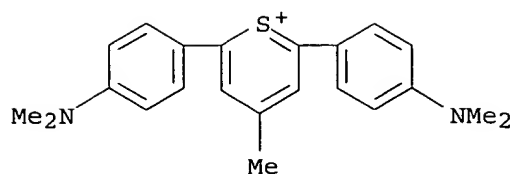


CM 2

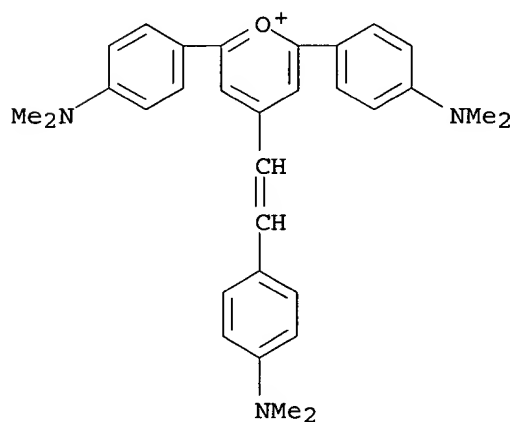
CRN 14797-73-0  
 CMF Cl O4



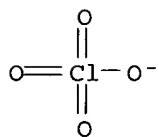
RN 165322-11-2 CAPLUS  
 CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI) (CA INDEX NAME)



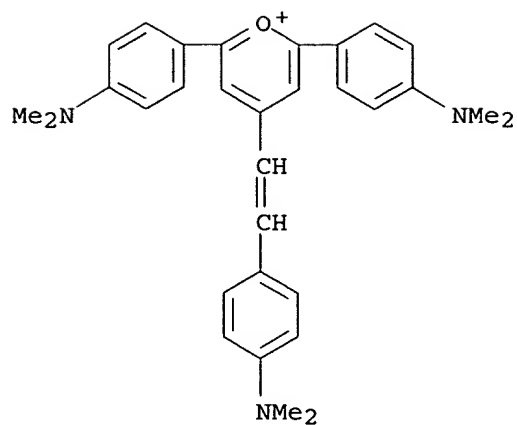
RN 165322-19-0 CAPLUS  
 CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 165322-18-9  
 CMF C31 H34 N3 O



CM 2  
 CRN 14797-73-0  
 CMF Cl O4



RN 165322-20-3 CAPLUS  
 CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



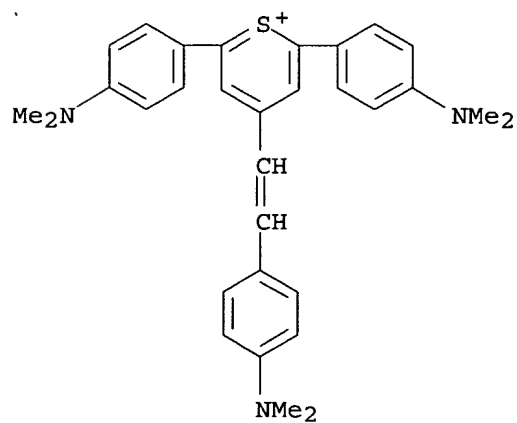
RN 165322-22-5 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-21-4

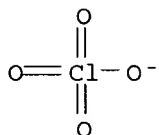
CMF C31 H34 N3 S



CM 2

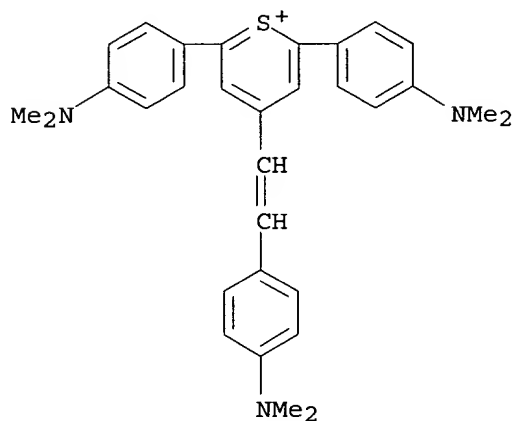
CRN 14797-73-0

CMF Cl O4



RN 165322-23-6 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-25-8 CAPLUS

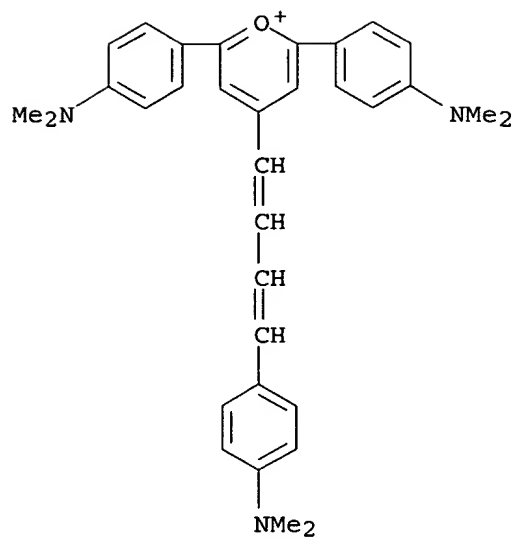
CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-24-7

CMF C33 H36 N3 O

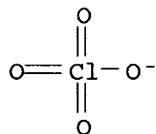




CM 2

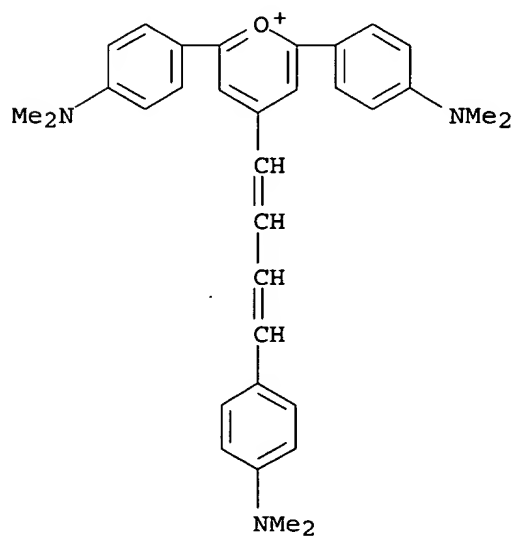
CRN 14797-73-0

CMF Cl O4



RN 165322-26-9 CAPLUS

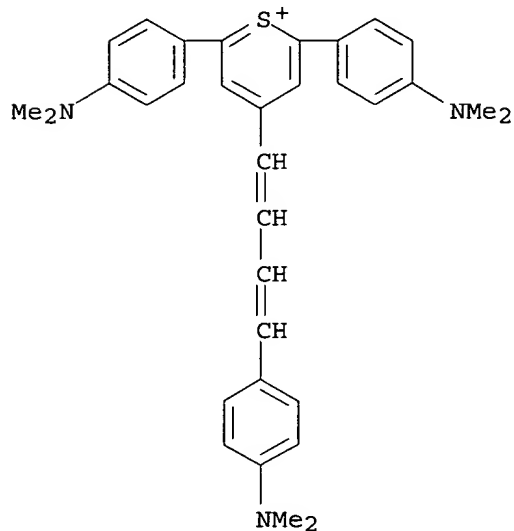
CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

RN 165322-28-1 CAPLUS  
 CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

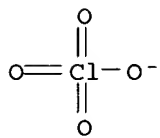
CM 1

CRN 165322-27-0  
 CMF C33 H36 N3 S

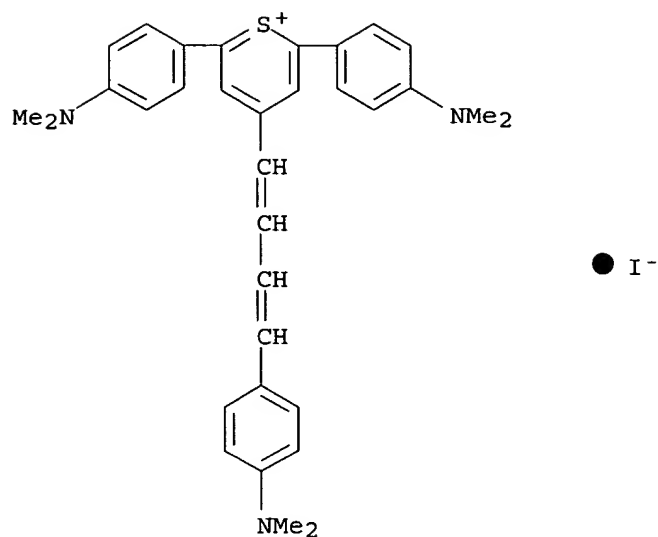


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165322-29-2 CAPLUS  
 CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-37-2 CAPLUS

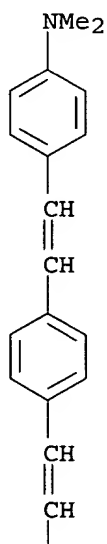
CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

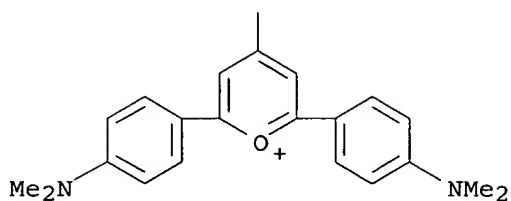
CRN 165322-36-1

CMF C39 H40 N3 O

PAGE 1-A



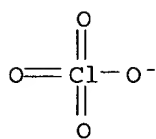
PAGE 2-A



CM 2

CRN 14797-73-0

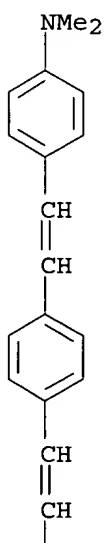
CMF Cl O4



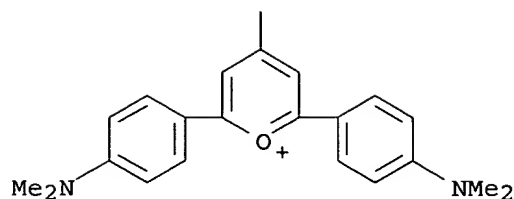
RN 165322-38-3 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



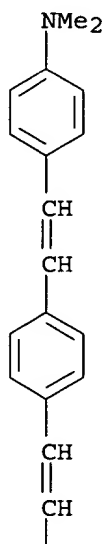
RN 165322-40-7 CAPLUS  
 CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

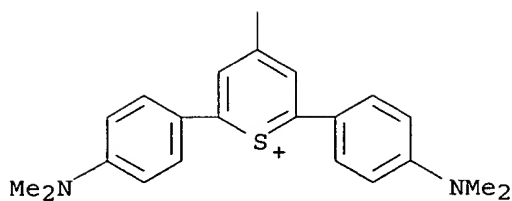
CRN 165322-39-4

CMF C39 H40 N3 S

PAGE 1-A



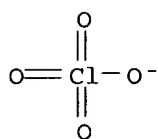
PAGE 2-A



CM 2

CRN 14797-73-0

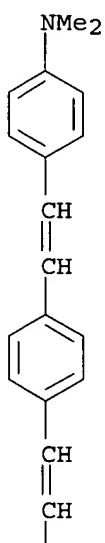
CMF Cl O4



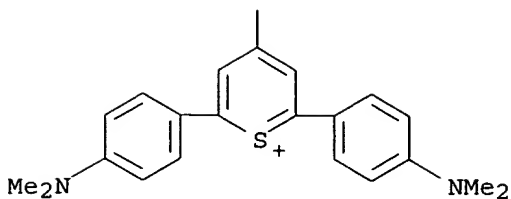
RN 165322-41-8 CAPLUS

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



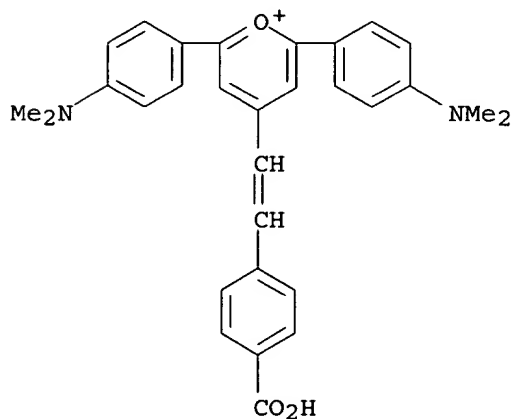
RN 165322-43-0 CAPLUS

CN Pyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-42-9

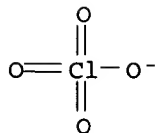
CMF C30 H29 N2 O3



CM 2

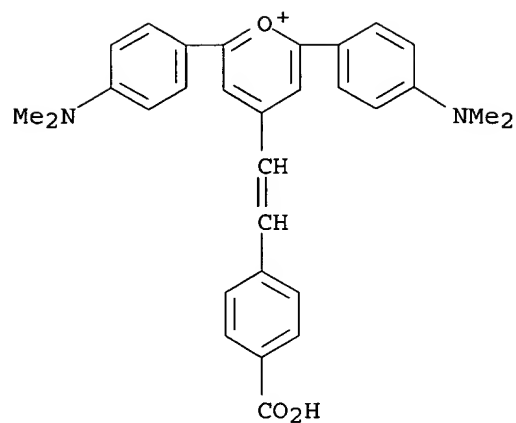
CRN 14797-73-0

CMF Cl O4



RN 165322-44-1 CAPLUS

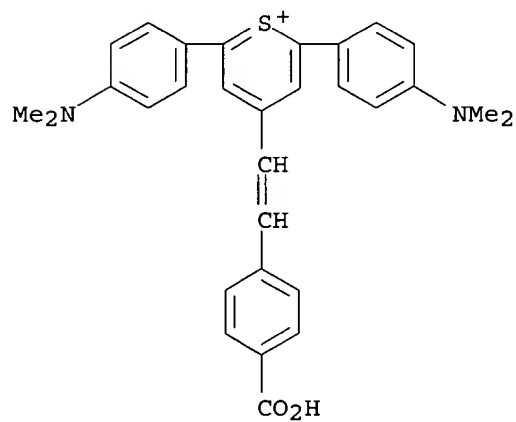
CN Pyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-46-3 CAPLUS  
 CN Thiopyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

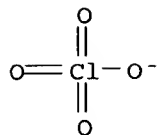
CRN 165322-45-2  
 CMF C30 H29 N2 O2 S



CM 2

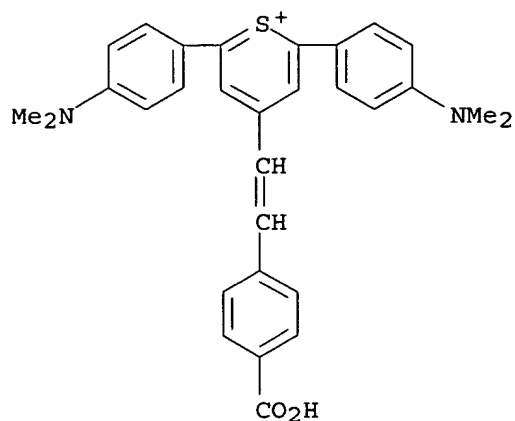
CRN 14797-73-0  
 CMF C1 O4





RN 165322-47-4 CAPLUS

CN Thiopyrylium, 4-[2-(4-carboxyphenyl)ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



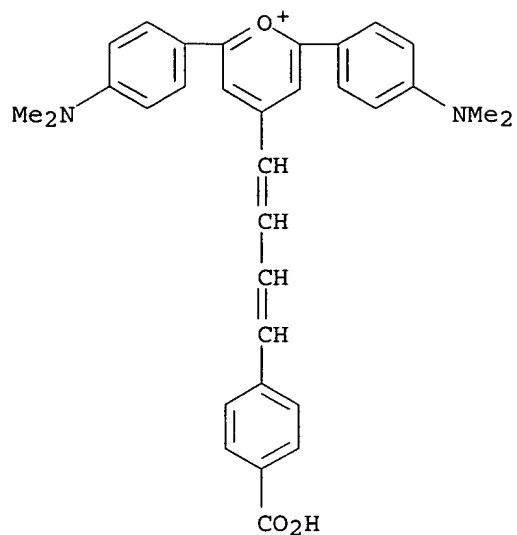
RN 165322-49-6 CAPLUS

CN Pyrylium, 4-[4-(4-carboxyphenyl)-1,3-butadienyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-48-5

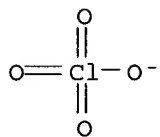
CMF C32 H31 N2 O3



CM 2

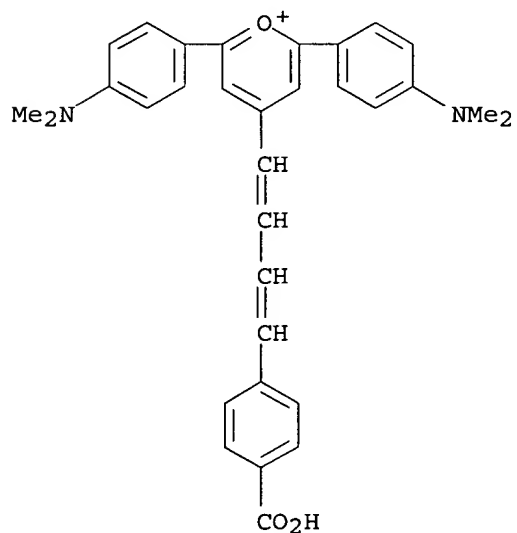
CRN 14797-73-0

CMF Cl O4



RN 165322-50-9 CAPLUS

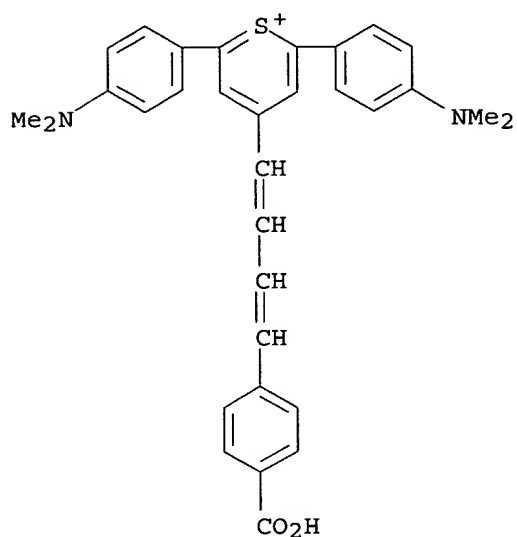
CN Pyrylium, 4-[4-(4-carboxyphenyl)-1,3-butadienyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-52-1 CAPLUS  
 CN Thiopyrylium, 4-[4-(4-carboxyphenyl)-1,3-butadienyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

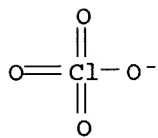
CM 1

CRN 165322-51-0  
 CMF C32 H31 N2 O2 S

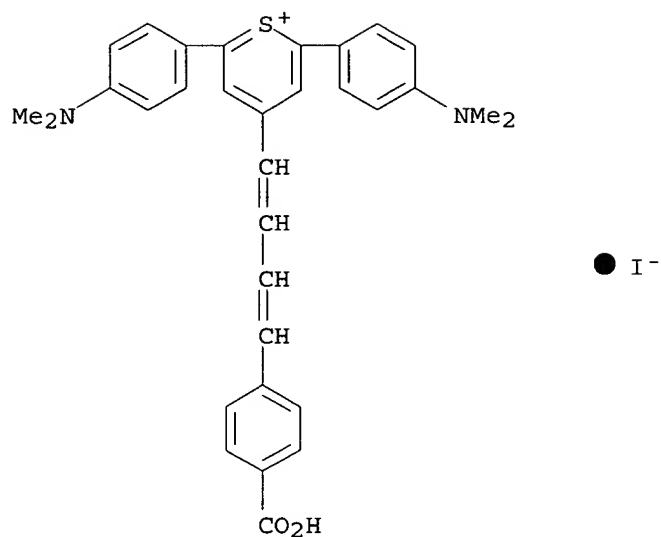


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165322-53-2 CAPLUS  
 CN Thiopyrylium, 4-[4-(4-carboxyphenyl)-1,3-butadienyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

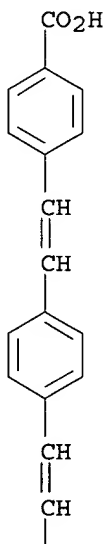


RN 165322-61-2 CAPLUS  
 CN Pyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

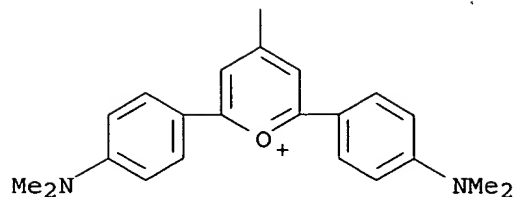
CM 1

CRN 165322-60-1  
 CMF C38 H35 N2 O3

PAGE 1-A



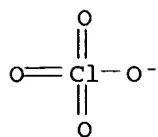
PAGE 2-A



CM 2

CRN 14797-73-0

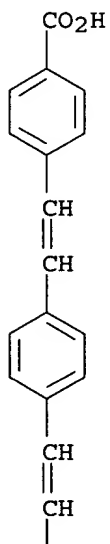
CMF Cl 04



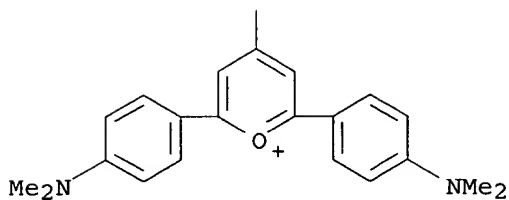
RN 165322-62-3 CAPLUS

CN Pyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

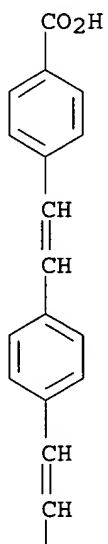


RN 165322-64-5 CAPLUS  
 CN Thiopyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

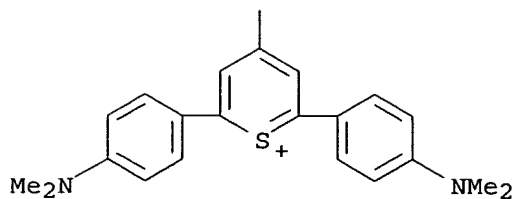
CM 1

CRN 165322-63-4  
 CMF C38 H35 N2 O2 S

PAGE 1-A



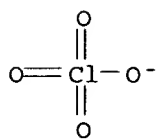
PAGE 2-A



CM 2

CRN 14797-73-0

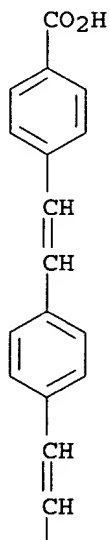
CMF Cl O4



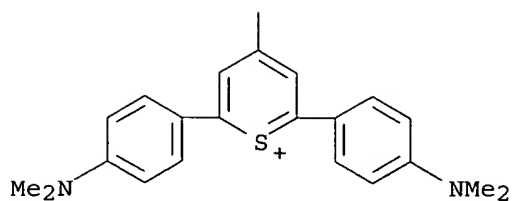
RN 165322-65-6 CAPLUS

CN Thiopyrylium, 4-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-2,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

PAGE 1-A



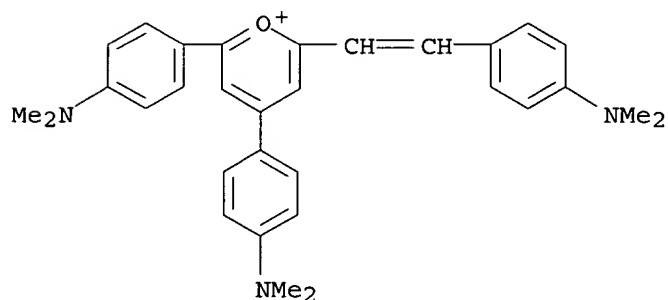
PAGE 2-A



RN 165322-67-8 CAPLUS  
 CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

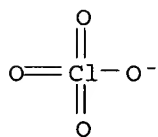
CM 1

CRN 165322-66-7  
 CMF C31 H34 N3 O



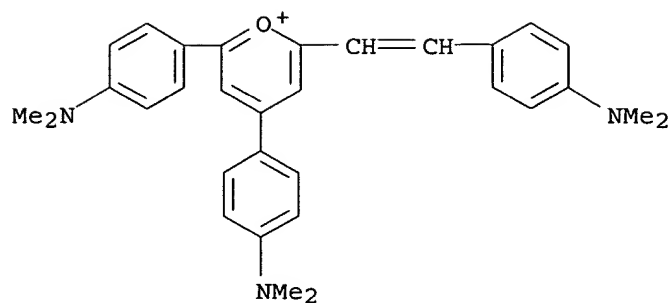
CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165322-68-9 CAPLUS  
 CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)

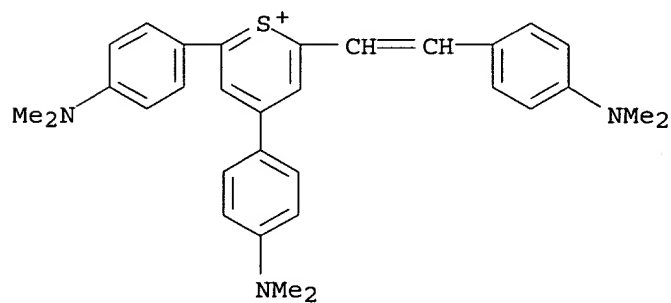




RN 165322-70-3 CAPLUS  
 CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

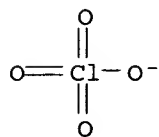
CM 1

CRN 165322-69-0  
 CMF C31 H34 N3 S

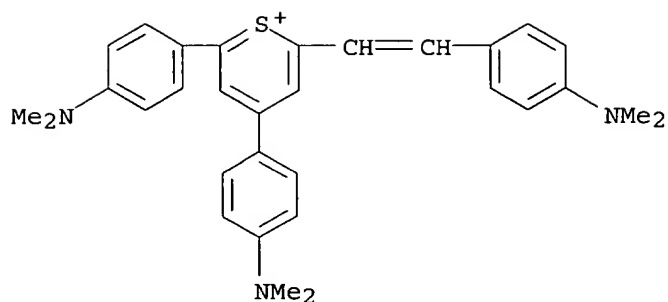


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165322-71-4 CAPLUS  
 CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-(dimethylamino)phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



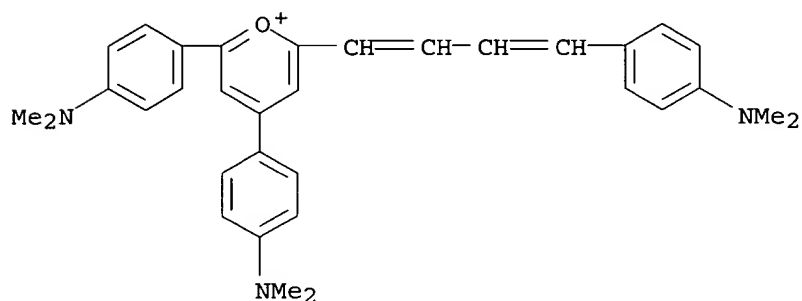
RN 165322-73-6 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-72-5

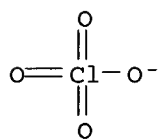
CMF C33 H36 N3 O



CM 2

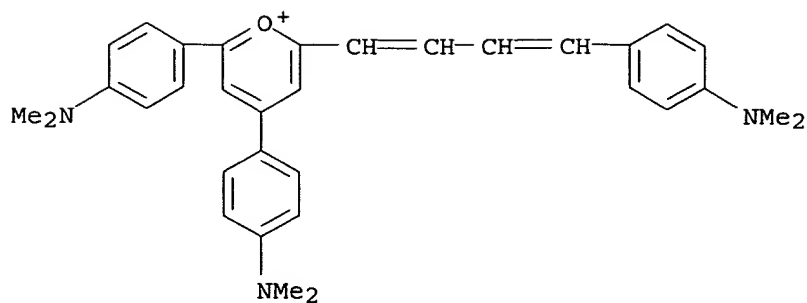
CRN 14797-73-0

CMF Cl O4



RN 165322-74-7 CAPLUS

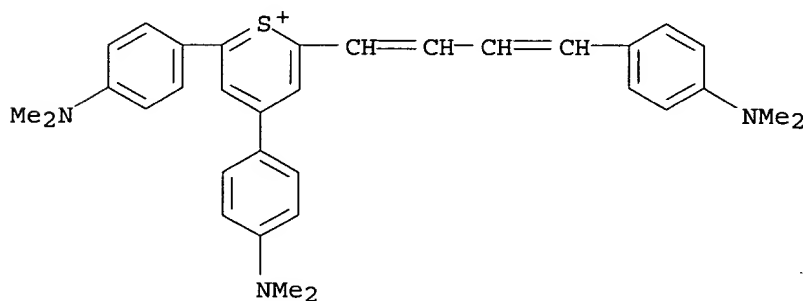
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-76-9 CAPLUS  
 CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, perchlorate (9CI) (CA INDEX NAME)

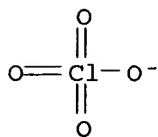
CM 1

CRN 165322-75-8  
 CMF C33 H36 N3 S

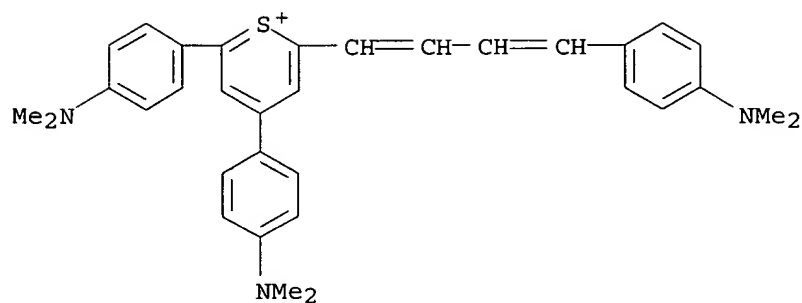


CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165322-77-0 CAPLUS  
 CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[4-[4-(dimethylamino)phenyl]-1,3-butadienyl]-, iodide (9CI) (CA INDEX NAME)



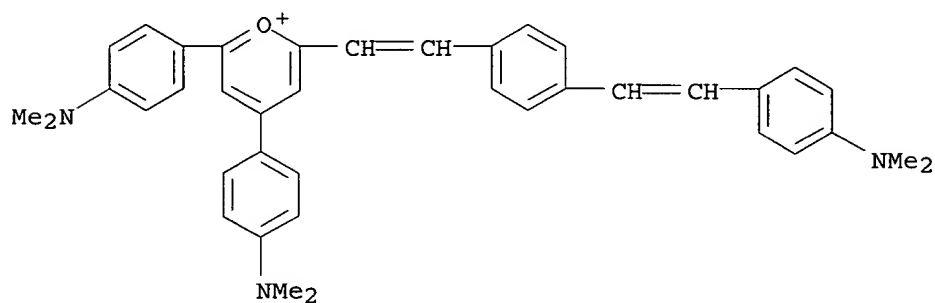
RN 165322-85-0 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-84-9

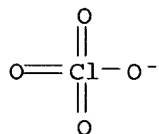
CMF C39 H40 N3 O



CM 2

CRN 14797-73-0

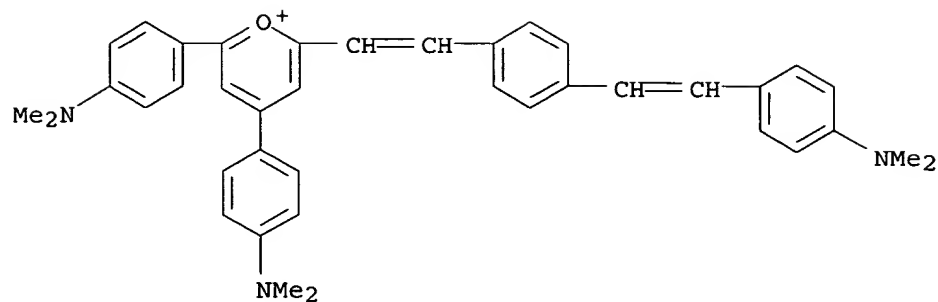
CMF Cl O4



RN 165322-86-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX

NAME)

● I<sup>-</sup>

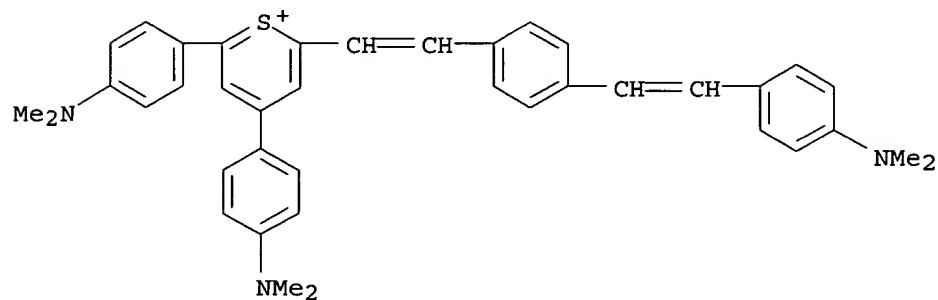
RN 165322-88-3 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-87-2

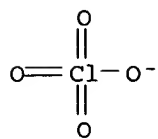
CMF C39 H40 N3 S



CM 2

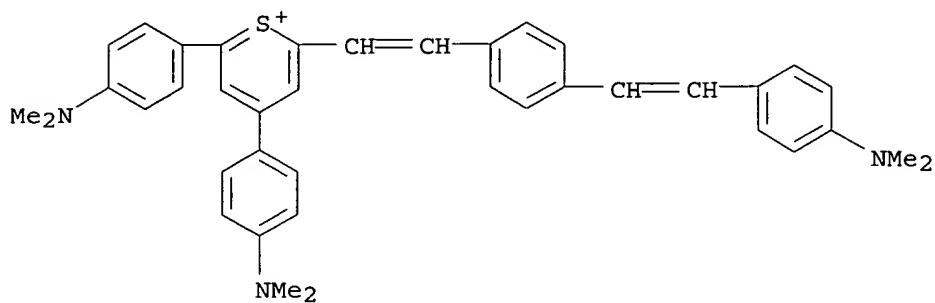
CRN 14797-73-0

CMF Cl O4



RN 165322-89-4 CAPLUS

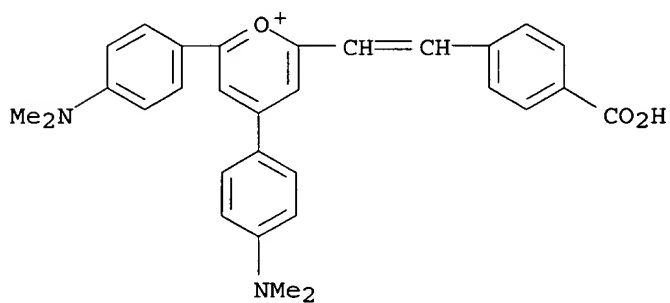
CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-[2-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]ethenyl]-, iodide (9CI) (CA INDEX NAME)



RN 165322-91-8 CAPLUS  
CN Pyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

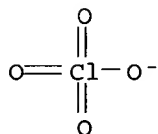
CM 1

CRN 165322-90-7  
CMF C30 H29 N2 O3

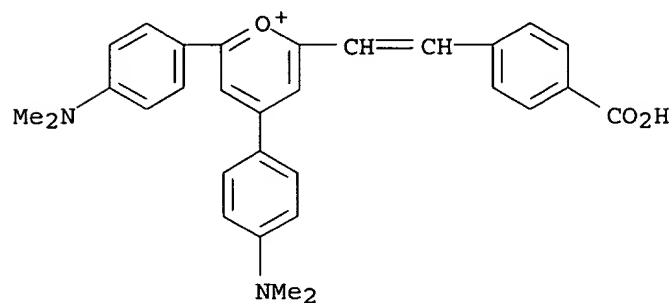


CM 2

CRN 14797-73-0  
CMF Cl O4



RN 165322-92-9 CAPLUS

CN Pyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-  
, iodide (9CI) (CA INDEX NAME)

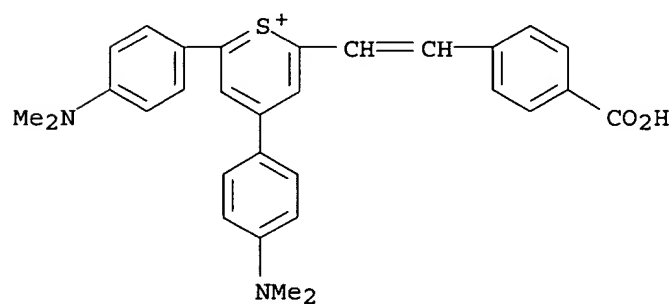
RN 165322-94-1 CAPLUS

CN Thiopyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-93-0

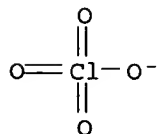
CMF C30 H29 N2 O2 S



CM 2

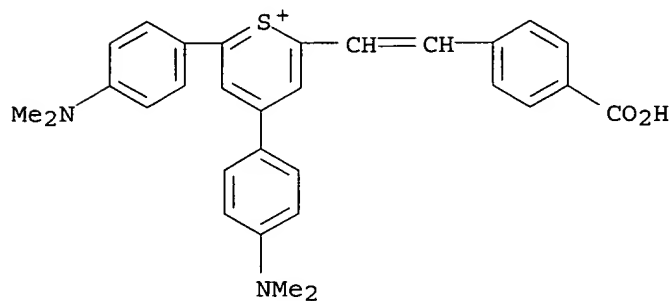
CRN 14797-73-0

CMF Cl O4



RN 165322-95-2 CAPLUS

CN Thiopyrylium, 2-[2-(4-carboxyphenyl)ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



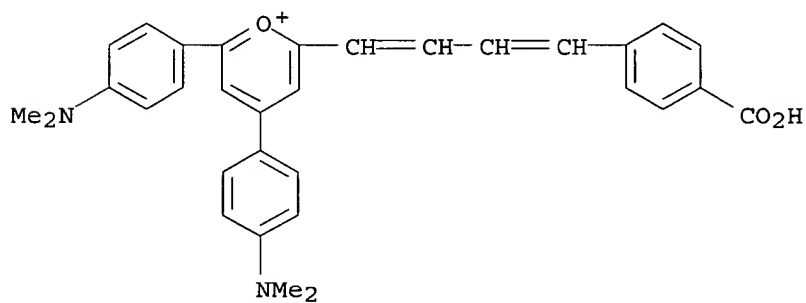
RN 165322-97-4 CAPLUS

CN Pyrylium, 2-[4-(4-carboxyphenyl)-1,3-butadienyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-96-3

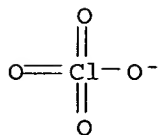
CMF C32 H31 N2 O3



CM 2

CRN 14797-73-0

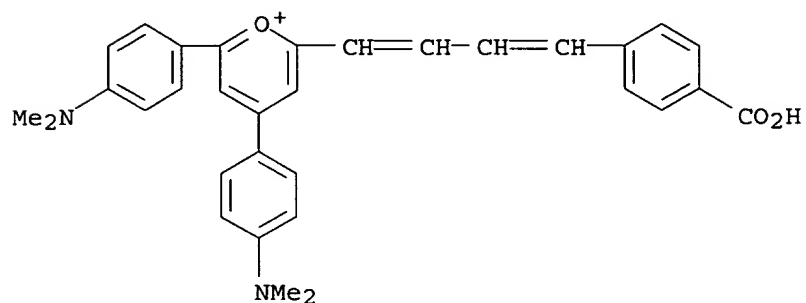
CMF Cl O4





RN 165322-98-5 CAPLUS

CN Pyrylium, 2-[4-(4-carboxyphenyl)-1,3-butadienyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



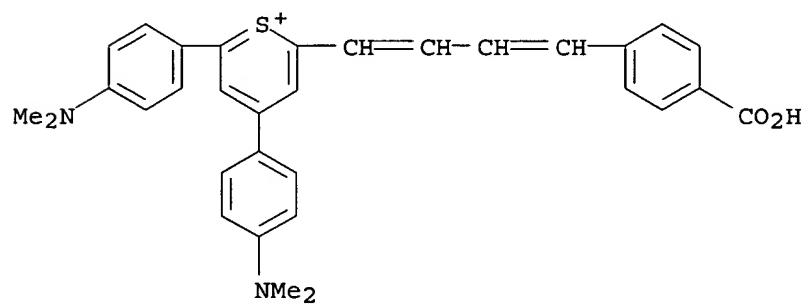
RN 165323-00-2 CAPLUS

CN Thiopyrylium, 2-[4-(4-carboxyphenyl)-1,3-butadienyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165322-99-6

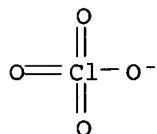
CMF C32 H31 N2 O2 S



CM 2

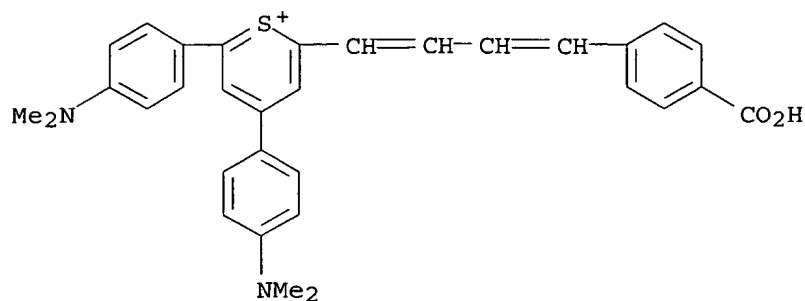
CRN 14797-73-0

CMF Cl O4



RN 165323-01-3 CAPLUS

CN Thiopyrylium, 2-[4-(4-carboxyphenyl)-1,3-butadienyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



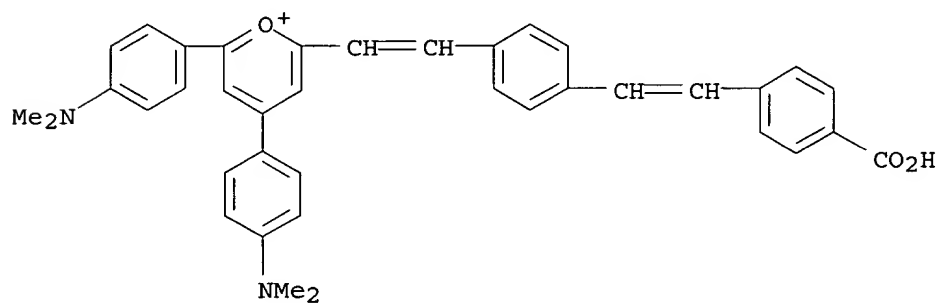
RN 165323-09-1 CAPLUS

CN Pyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165323-08-0

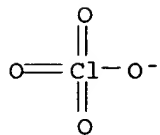
CMF C38 H35 N2 O3



CM 2

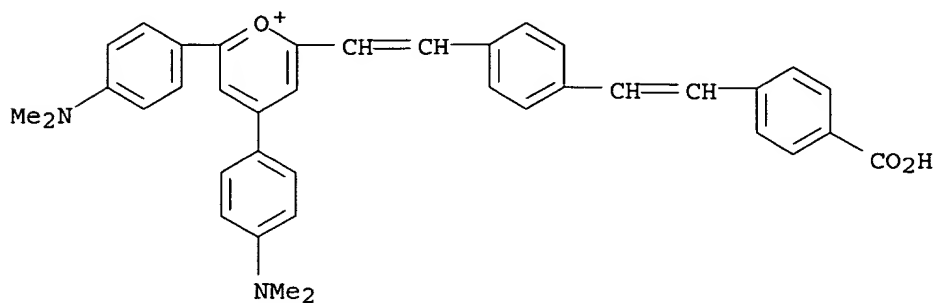
CRN 14797-73-0

CMF Cl O4



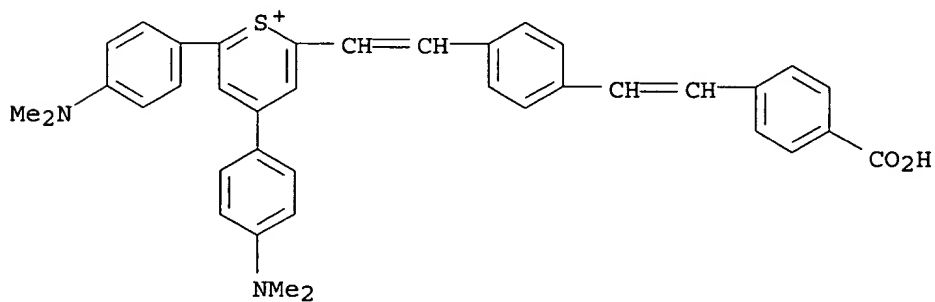
RN 165323-10-4 CAPLUS

CN Pyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

RN 165323-11-5 CAPLUS

CN Thiopyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)

● I<sup>-</sup>

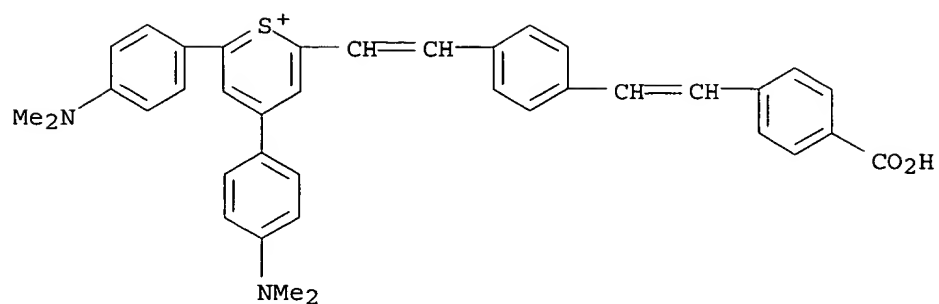
RN 165323-13-7 CAPLUS

CN Thiopyrylium, 2-[2-[4-[2-(4-carboxyphenyl)ethenyl]phenyl]ethenyl]-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165323-12-6

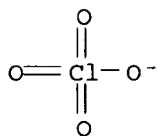
CMF C38 H35 N2 O2 S



CM 2

CRN 14797-73-0

CMF C1 O4



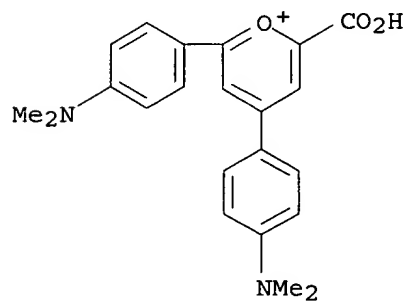
RN 165323-15-9 CAPLUS

CN Pyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 165323-14-8

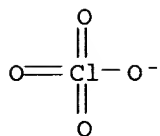
CMF C22 H23 N2 O3



CM 2

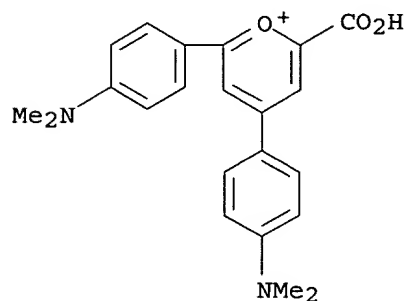
CRN 14797-73-0

CMF C1 O4



RN 165323-16-0 CAPLUS

CN Pyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI) (CA INDEX NAME)



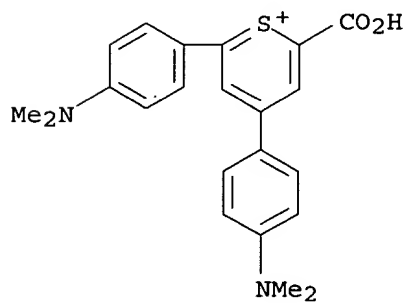
RN 165323-18-2 CAPLUS

CN Thiopyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 165323-17-1

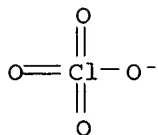
CMF C22 H23 N2 O2 S



CM 2

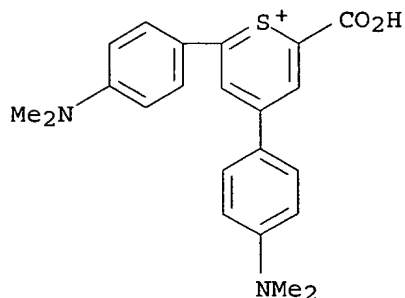
CRN 14797-73-0

CMF Cl O4



RN 165323-19-3 CAPLUS

CN Thiopyrylium, 2-carboxy-4,6-bis[4-(dimethylamino)phenyl]-, iodide (9CI)  
(CA INDEX NAME)



L49 ANSWER 29 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:579805 CAPLUS

DOCUMENT NUMBER: 123:48670

TITLE: A rapid detection of PCR amplification product using a new fluorescent intercalator; the pyrylium dye, P2

AUTHOR(S): Yamamoto, Nobuko; Okamoto, Tadashi

CORPORATE SOURCE: Canon Research Center, Canon Inc., Kanagawa, 243-01, Japan

SOURCE: Nucleic Acids Research (1995), 23(8), 1445-6

CODEN: NARHAD; ISSN: 0305-1048

PUBLISHER: Oxford University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In this paper, we present a new method for the determination of nucleic acid by detecting PCR amplification product using a fluorescent intercalator, 2-methyl-4,6-bis(4-N,N-dimethylaminophenyl)pyrylium iodide (P2), which does not fluoresce in the free state but shows strong fluorescence when reacted with dsDNA ( $\lambda_{ex}$  580 nm,  $\lambda_{em}$  640 nm), in proportion to the amount of dsDNA. The use of P2 enables precise and selective detection of the amplification product of PCR reactions, by adding the dye compound directly to a PCR reaction mixture without separating the

amplification

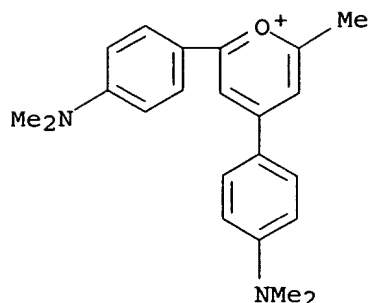
product from the primers and template nucleic acid.

IT 151921-86-7

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(a rapid detection of PCR amplification product using a new fluorescent intercalator; the pyrylium dye, P2)

RN 151921-86-7 CAPLUS  
 CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA  
 INDEX NAME)



● I<sup>-</sup>

L49 ANSWER 30 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1995:529163 CAPLUS  
 DOCUMENT NUMBER: 123:44332  
 TITLE: High-sensitivity positively charging  
 electrophotographic photoreceptor  
 INVENTOR(S): Ooshiba, Tomomi; Hirose, Hisahiro; Hai, Genko;  
 Fujimoto, Shingo  
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07056369	A2	19950303	JP 1993-199586	19930811
PRIORITY APPLN. INFO.: GI			JP 1993-199586	19930811

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The photoreceptor has an elec. conductive support coated with a  
 photosensitive layer containing (heterocyclic) aromatic compound I, II, III,  
 or IV

[Q, Q1-3 = O, C(CN)2, CHCN, CY2, C(CO2R)2, CHCO2R, CHR, NR, HCN; Y = halo;  
 R = H, alkyl, Ph, heterocyclic group; X = O, CO, NH, (substituted) aliphatic  
 group, aromatic hydrocarbyl; R, R1-3 = (substituted) alkyl, aryl, alkoxy,  
 acyl, ester, cyano, NO2, amide, sulfone, sulfonamide, OH, CHO, halo; A1-2,  
 B1-2 = (substituted) aromatic hydrocarbyl, heterocyclic group; l, m, j, k  
 ≥0] as charge-transporting agents. The photoreceptor showed low  
 residual potential and gave clear images.

IT 163968-13-6

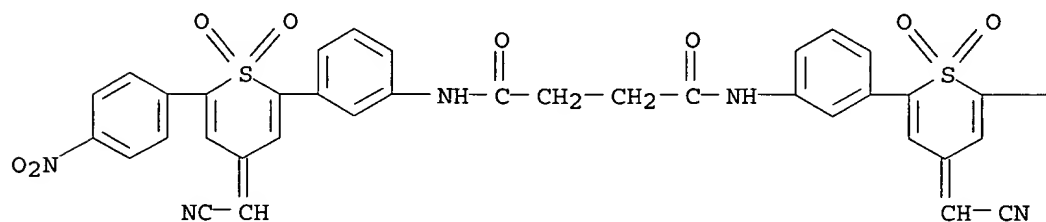
RL: DEV (Device component use); USES (Uses)

(electrophotog. photoreceptor containing (heterocyclic) aromatic compound charge-transporting agent with high sensitivity)

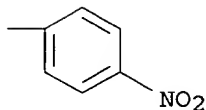
RN 163968-13-6 CAPLUS

CN Butanediamide, N,N'-bis[3-[4-(cyanomethylene)-6-(4-nitrophenyl)-1,1-dioxido-4H-thiopyran-2-yl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L49 ANSWER 31 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:529390 CAPLUS

DOCUMENT NUMBER: 121:129390

TITLE: Fluorescent stain containing pyrylium salt or its similar salt, detection method of nucleic acid by use of it, and fluorescent staining method of biological sample.

INVENTOR(S): Yamamoto, Nobuko; Okamoto, Tadashi; Tomida, Yoshinori; Miyazaki, Takeshi; Kawaguchi, Masahiro

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Eur. Pat. Appl., 76 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 603783	A1	19940629	EP 1993-120508	19931220
EP 603783	B1	20010926		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE				
JP 07174759	A2	19950714	JP 1993-318045	19931217
JP 3247001	B2	20020115		
JP 09040661	A2	19970210	JP 1996-200327	19931217
EP 1052291	A2	20001115	EP 2000-112804	19931220
EP 1052291	A3	20001122		



R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT

AT 206210 E 20011015 AT 1993-120508 19931220

US 5624798 A 19970429 US 1993-170689 19931221

US 6022961 A 20000208 US 1997-782798 19970113

PRIORITY APPLN. INFO.:

JP 1992-340755 A 19921221

JP 1993-49530 A 19930310

JP 1993-227204 A 19930913

JP 1993-266866 A 19931026

JP 1993-318045 A 19931217

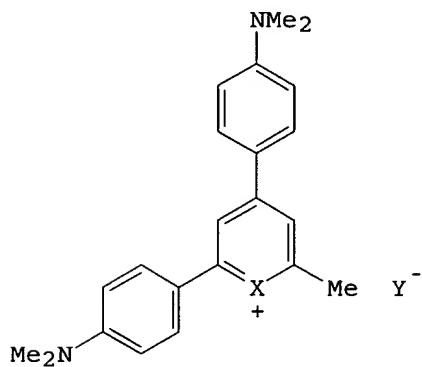
EP 1993-120508 A3 19931220

US 1993-170689 A3 19931221

OTHER SOURCE(S):

MARPAT 121:129390

GI



AB A stain for a nucleic acid characterized by containing, as an effective component, a pyrylium salt compound, e.g., I (X = O or S, and Y is an anion). A method for detecting a nucleic acid which comprises the steps of reacting a sample with the stain, and then detecting, by an optical means, the double-strand nucleic acid stained with the stain in the case that the double-strand nucleic acid is contained in the sample.

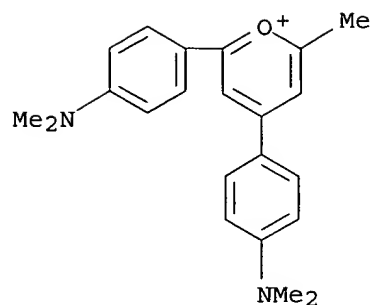
IT 151921-86-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction with sodium hydrogen sulfide, for fluorescent staining of nucleic acids)

RN 151921-86-7 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



IT 157137-82-1P 157137-84-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, DNA effects on absorption maximum and fluorescence intensity of)

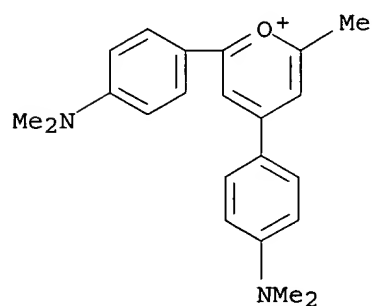
RN 157137-82-1 CAPLUS

CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 157137-81-0

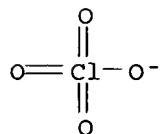
CMF C22 H25 N2 O



CM 2

CRN 14797-73-0

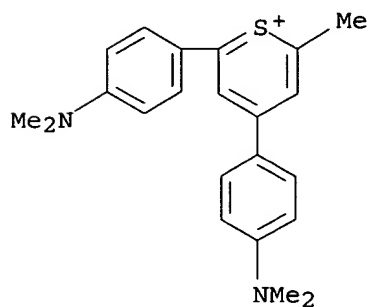
CMF Cl O4



RN 157137-84-3 CAPLUS  
CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, perchlorate  
(9CI) (CA INDEX NAME)

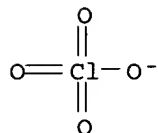
CM 1

CRN 157137-83-2  
CMF C22 H25 N2 S

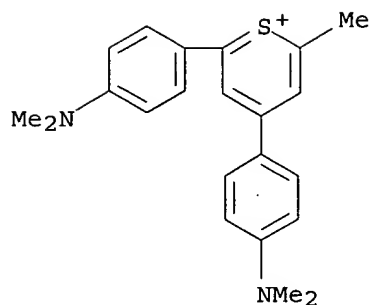


CM 2

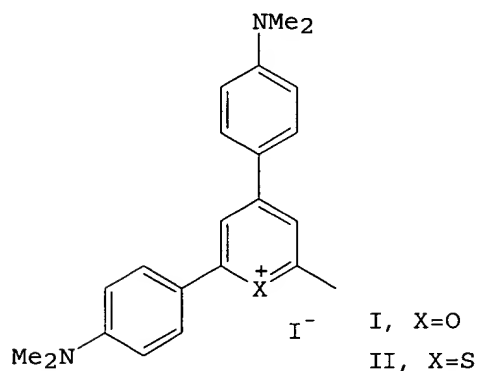
CRN 14797-73-0  
CMF Cl O4



IT 151921-87-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, for fluorescent staining of nucleic acids)  
RN 151921-87-8 CAPLUS  
CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI)  
(CA INDEX NAME)



L49 ANSWER 32 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1994:158033 CAPLUS  
 DOCUMENT NUMBER: 120:158033  
 TITLE: Novel intercalators of pyrylium dye into double-stranded DNA  
 AUTHOR(S): Yamamoto, Nobuko; Okamoto, Tadashi; Kawaguchi, Masahiro  
 CORPORATE SOURCE: Canon Res. Cent., Canon Inc., Atsugi, 243-01, Japan  
 SOURCE: Nucleic Acids Symposium Series (1993), 29(Second International Symposium on Nucleic Acids Chemistry), 83-4  
 CODEN: NACSD8; ISSN: 0261-3166  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB Discovery is reported of novel intercalators without fused ring systems, pyrylium and thiopyrylium salts. 2-Methyl-4,6-bis-(N,N-dimethylaminophenyl)pyrylium salt (I) is, in particular, virtually nonfluorescent in aqueous solution but forms highly fluorescent complexes with double-stranded DNA (dsDNA) that yield >400-fold fluorescence enhancement at the peak emission. Reported are the synthesis, absorption and fluorescence properties of I and its thiopyrylium derivative (II) in comparison with other pyrylium and thiopyrylium dyes and the typical

intercalator ethidium bromide (EB). Compound I shows an absorption maximum at 540 nm and a red shift (about 40 nm) in the presence of dsDNA similar to EB. Enhancement of fluorescence emission excited by visible light is extremely sensitive to the concentration of dsDNA compared to that of EB. The thiopyrylium salt II with absorption maximum at 575 nm shows a similar profile in the absorption spectral shift and fluorescence enhancement to that of I when the dye binds to dsDNA.

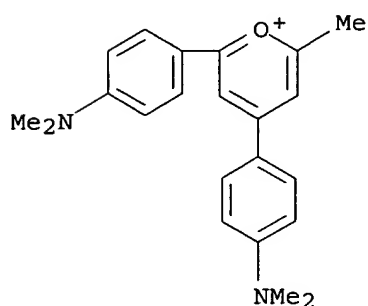
IT 151921-86-7P 151921-87-8P

RL: PREP (Preparation)

(preparation and double-stranded DNA intercalation by)

RN 151921-86-7 CAPLUS

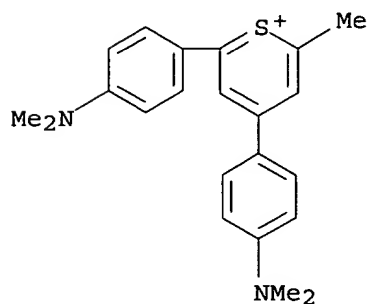
CN Pyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

RN 151921-87-8 CAPLUS

CN Thiopyrylium, 2,4-bis[4-(dimethylamino)phenyl]-6-methyl-, iodide (9CI) (CA INDEX NAME)



● I<sup>-</sup>

L49 ANSWER 33 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:104781 CAPLUS

DOCUMENT NUMBER: 118:104781

TITLE: Synthesis and properties of triphenylmethane dye

ethynologs  
 AUTHOR(S): Nakatsuji, Shinichi; Nakazumi, Hiroyuki; Nakashima, Kenichiro; Akiyama, Shuzo  
 CORPORATE SOURCE: Inst. Him., Fac. Sci., Kamigori, 678-12, Japan  
 SOURCE: Nippon Kagaku Kaishi (1992), (11), 1279-93  
 CODEN: NKAKB8; ISSN: 0369-4577

DOCUMENT TYPE: Journal  
 LANGUAGE: Japanese

AB The title dyes were systematically prepared and their spectroscopic properties were investigated. In attempts to synthesize the bis- and tris-ethynologs, a new preparative method was found, which gave pyrylium salt derivs. The reaction of acetylenic alcs. (mono-ethynylog precursors) with several nucleophiles afforded merocyanine dye systems having aryl-substituted push-pull butadiene moieties. Near-IR-absorbing derivs. were obtained by intramol. bridging or extension of conjugation on the ethynylogs. Studies of color (visible spectra), PPP-MO structure-electronic state correlations, and applications to spectrophotometric anal. were summarized.

IT 94665-96-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and absorption spectra of)

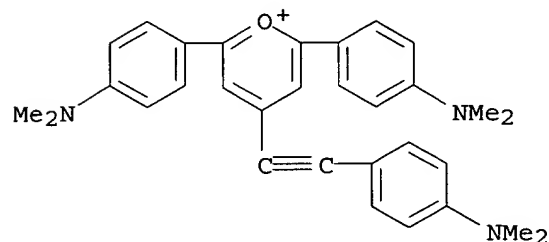
RN 94665-96-0 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[[4-(dimethylamino)phenyl]ethynyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 94665-95-9

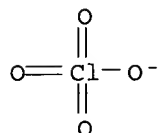
CMF C31 H32 N3 O



CM 2

CRN 14797-73-0

CMF C1 O4



L49 ANSWER 34 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1992:580723 CAPLUS

DOCUMENT NUMBER: 117:180723  
 TITLE: Vibronic interaction and shape of electron absorption bands of polymethine dyes  
 AUTHOR(S): Ishchenko, A. A.  
 CORPORATE SOURCE: Inst. Org. Khim., Kiev, Ukraine  
 SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1991), 57(11), 1166-71  
 CODEN: UKZHAU; ISSN: 0041-6045

DOCUMENT TYPE: Journal  
 LANGUAGE: Russian

AB The principal types of vibrations were analyzed, determining the shape of the vibronic absorption bands of polymethine dyes. Formulas were obtained, relating the higher central moments of these bands to the magnitude of the squared variations of the bond orders during excitation of the cyanine mols. On the basis of quantum mech. calcns., these values can predict the tendency for a change to occur in the absorption band shape of polymethine dyes as a function of their structures. Some 24 dyes were studied.

IT 142877-77-8

RL: PRP (Properties)

(electronic absorption band shape and vibronic interaction of)

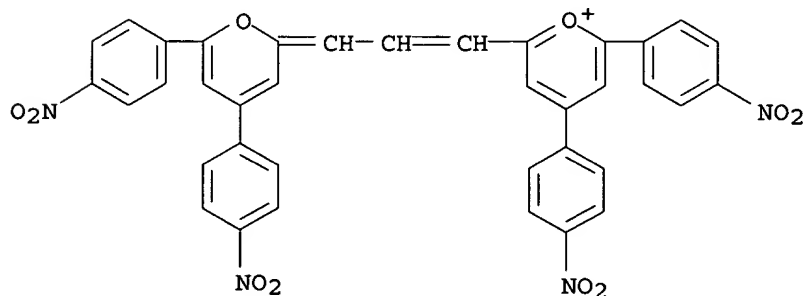
RN 142877-77-8 CAPLUS

CN Pyrylium, 2-[3-[4,6-bis(4-nitrophenyl)-2H-pyran-2-ylidene]-1-propenyl]-4,6-bis(4-nitrophenyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 110673-32-0

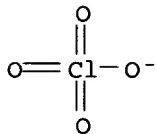
CMF C37 H23 N4 O10



CM 2

CRN 14797-73-0

CMF Cl O4

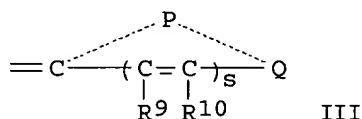
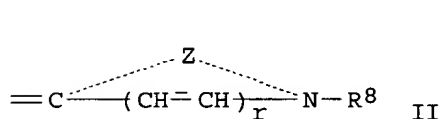
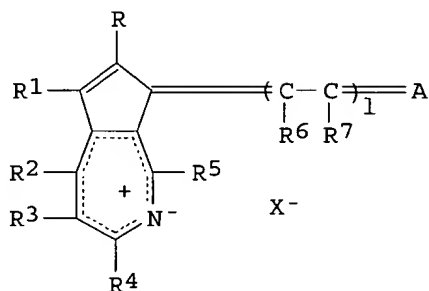


L49 ANSWER 35 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:502926 CAPLUS  
 DOCUMENT NUMBER: 115:102926  
 TITLE: Optical recording medium  
 INVENTOR(S): Santo, Takeshi; Mihara, Chieko  
 PATENT ASSIGNEE(S): Canon K. K., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02200481	A2	19900808	JP 1989-17794	19890130
JP 2577253	B2	19970129		
PRIORITY APPLN. INFO.:			JP 1989-17794	19890130

GI



AB The recording layer of the medium contains  $\geq 1$  azaazulenium salt I  
 [R, R1-7 = H, halo, monovalent organic moiety; R and R1, R1 and R2, R2 and  
 R3, and R3 and R4 may form condensed rings; X- = anion residue; l = 1-4; A  
 = II, III, or CR11R12 (Z = atomic group forming heterocyclyl; P = hydrocarbon  
 group forming pyran, thiopyran, selenapyran, benzopyran, benzothiapyran,  
 benzoselenapyran, naphthopyran, naphthothiapyran, or naphthoselenapyran; Q  
 = S, O, Se; R8 = H, alkyl, cyclic alkyl, aryl, aralkyl, aryl; R9-12 = H,  
 alkyl, aryl, styryl; r = 0, 1; s = 1,2)]. The azaazulenium compds. give  
 high absorptivity at .apprx.830 nm, and are suitable for optical recording  
 using a semiconductor laser.

IT 133991-22-7

RL: TEM (Technical or engineered material use); USES (Uses)  
 (optical recording medium containing, with high sensitivity at  
 semiconductor laser wavelength)

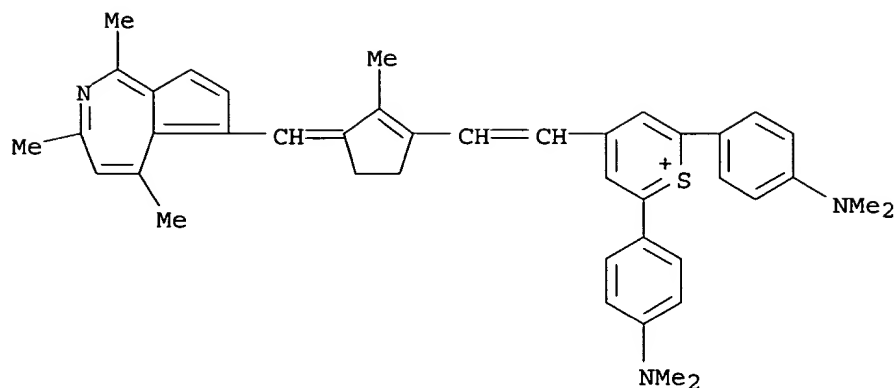
RN 133991-22-7 CAPLUS

CN Thiopyrylium, 6-bis[4-(dimethylamino)phenyl]-4-[2-[2-methyl-3-[(1,3,5-  
 trimethylcyclopent[c]azepin-6-yl)methylene]-1-cyclopenten-1-yl]ethenyl]-,  
 perchlorate (9CI) (CA INDEX NAME)

CM 1

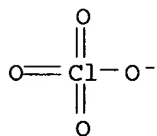


CRN 133991-21-6  
CMF C42 H44 N3 S



CM 2

CRN 14797-73-0  
CMF Cl O4



L49 ANSWER 36 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1991:14989 CAPLUS  
DOCUMENT NUMBER: 114:14989  
TITLE: Optical recording media  
INVENTOR(S): Santo, Takeshi; Mihara, Chieko  
PATENT ASSIGNEE(S): Canon K. K., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 3  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02190390	A2	19900726	JP 1989-9889	19890120
JP 2732275	B2	19980325		
US 5187043	A	19930216	US 1991-794835	19911112
PRIORITY APPLN. INFO.:			JP 1989-9887	A 19890120
			JP 1989-9889	A 19890120
			JP 1989-67465	A 19890322
			US 1990-467524	B1 19900119
			US 1990-598780	B1 19901018

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Recording layer of the media contains naphtholactam derivs. I, II, III, or IV [A = V; R1 = (cyclo)alkyl, alkoxy, allyl, aryl, aralkyl; R2-3 = H, halo, organic group; R4-10 = H, halo, organic group; Y = 5-6-membered ring hydrocarbylene; l = 1-3; m = 1-2; n = 1-2; X- = anion; R11 = H, (cyclo)alkyl, allyl, aralkyl, aryl; Z = group completing heterocyclic rings; q = 0-1; Q = S, O, Se; P = (substituted) pyran, thiopyran, selenapyran, benzopyran, benzothiapyran, benzoselenapyran, naphthopyran, naphthothiopyran, naphthoselenapyran; R12-13 = H, alkyl, aryl, styryl; r = 0-1]. These media are sensitive to semiconductor laser beam and provides high signal-to-noise ratio. Thus, a polycarbonate disk with a 800-Å-thick layer of VI was recorded and read using 830-nm laser beam, to produce signals with carrier-to-noise ratio 55 dB, which was 53 dB after 105 repeated reading, and 52 dB when the recorded disk was stored at 65°, 85% humidity for 2000 h.

IT 130965-49-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(optical recording materials containing)

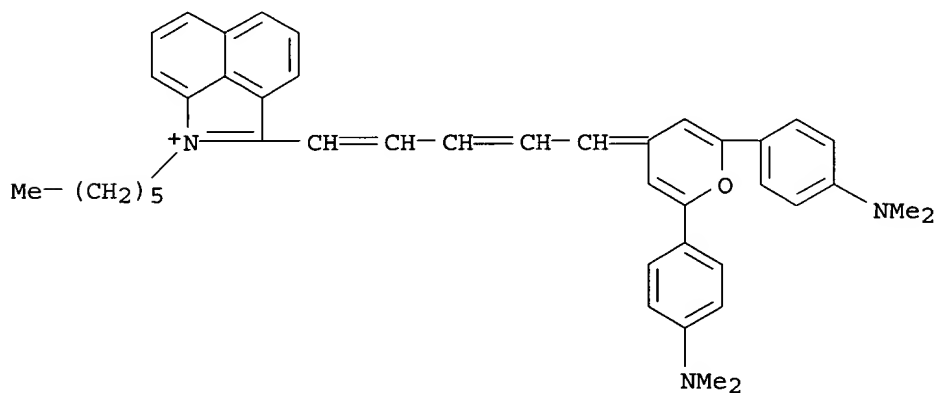
RN 130965-49-0 CAPLUS

CN Benz[cd]indolium, 2-[5-[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene]-1,3-pentadienyl]-1-hexyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 130965-48-9

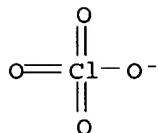
CMF C43 H46 N3 O



CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 37 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:448278 CAPLUS

DOCUMENT NUMBER: 111:48278

TITLE: Optical recording material containing azulanium salt

INVENTOR(S): Santo, Takeshi; Oguchi, Yoshihiro

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 63260489	A2	19881027	JP 1987-93207	19870417
PRIORITY APPLN. INFO.: GI			JP 1987-93207	19870417

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB An optical recording material suited for use as a laser disk comprises a recording layer containing an azulanium salt I or II [A = III, IV, CR17R18; R1-13 = H, halo, organic group, or any 2 adjacent pair of R1-7 may jointly form an (un) substituted fused ring; Y = divalent hydrocarbyl for completing an (un) substituted 5- or 6-membered ring; Q = S, Se, O; P = hydrocarbyl consisting of atoms needed for completing pyran, thiopyran, selenapyran, benzopyran, benzothiopyran, benzoselenapyran, naphthopyran, naphthothiopyran, naphthoselenapyran; R15, R16 = H, (un)substituted alkyl, (un)substituted aryl, (un)substituted styryl; R17, R18 = H, (un)substituted alkyl, (un)substituted aryl, (un)substituted styryl, (un)substituted heterocyclyl; m = 1, 2; n = 0, 1; p = 1, 2; a = 0, 1; r = 0, 1; s = 0, 1; X- = anion].

IT 121616-96-4

RL: TEM (Technical or engineered material use); USES (Uses)  
(optical recording material containing)

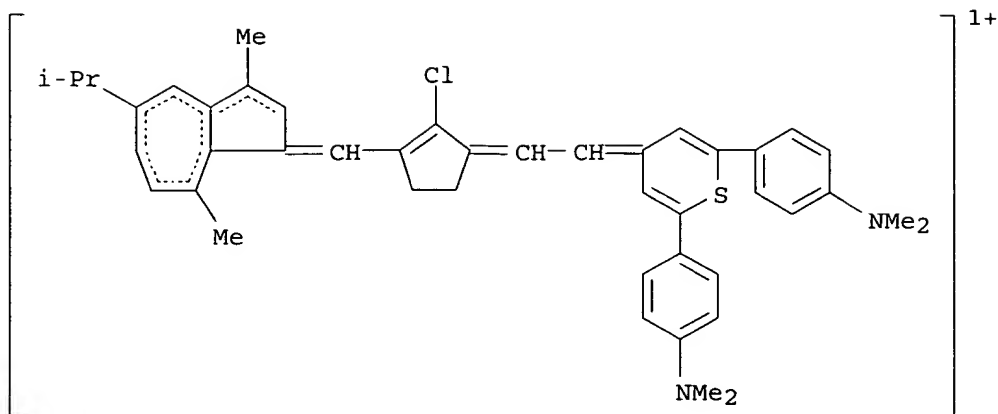
RN 121616-96-4 CAPLUS

CN Azulenylum, 1-[[3-[[2,6-bis(4-(dimethylamino)phenyl)-4H-thiopyran-4-ylidene]ethylidene]-2-chloro-1-cyclopenten-1-yl]methylene]-1,?-dihydro-3,8-dimethyl-5-(1-methylethyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 121616-95-3

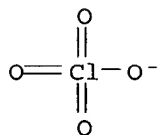
CMF C44 H46 Cl N2 S



CM 2

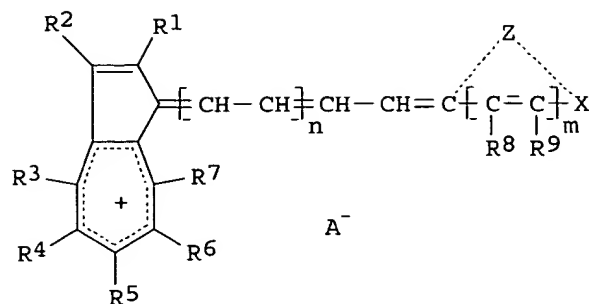
CRN 14797-73-0

CMF Cl O4



L49 ANSWER 38 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1989:448277 CAPLUS  
 DOCUMENT NUMBER: 111:48277  
 TITLE: Optical recording material containing azulenium salt  
 INVENTOR(S): Santo, Takeshi; Oguchi, Yoshihiro  
 PATENT ASSIGNEE(S): Canon K. K., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63260488	A2	19881027	JP 1987-93206	19870417
PRIORITY APPLN. INFO.: GI			JP 1987-93206	19870417



AB An optical recording material suited for use as a laser disk comprises a recording layer containing an azulenium salt I [R1-7 = H, halo, organic group, or

any 2 adjacent pair of R1-7 may jointly form an (un)substituted fused ring; X = S, Se, O; Z = hydrocarbyl consisting of atoms needed for completing pyran, thiopyran, selenapyran, benzopyran, benzothiopyran, benzoselenapyran, naphthopyran, naphthothiopyran, naphthoselenapyran; R8, R9 = H, (un)substituted alkyl, (un)substituted aryl, (un)substituted styryl; n = 1, 2, 3; m = 0, 1; X- = anion].

IT 121600-83-7 121600-92-8 121600-99-5

RL: TEM (Technical or engineered material use); USES (Uses)  
(optical recording material containing)

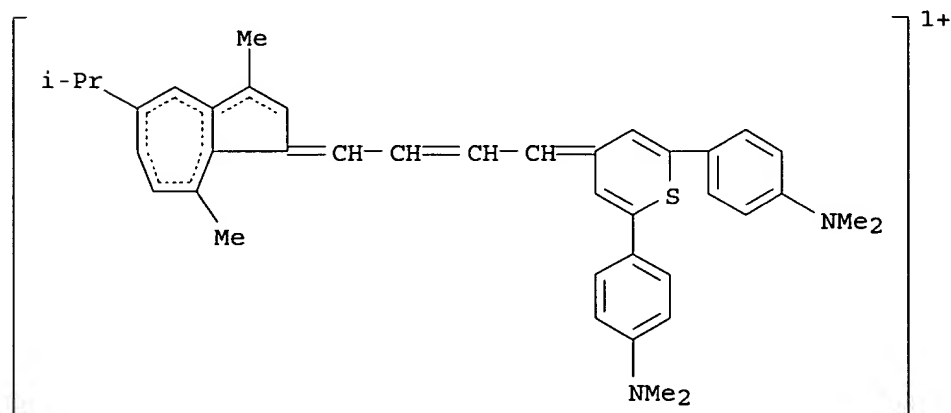
RN 121600-83-7 CAPLUS

CN Azulenium, 1-[4-[2,6-bis[4-(dimethylamino)phenyl]-4H-thiopyran-4-ylidene]-2-butenylidene]-1,?-dihydro-3,8-dimethyl-5-(1-methylethyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 121600-82-6

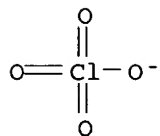
CMF C40 H43 N2 S



CM 2

CRN 14797-73-0

CMF C1 O4



RN 121600-92-8 CAPLUS

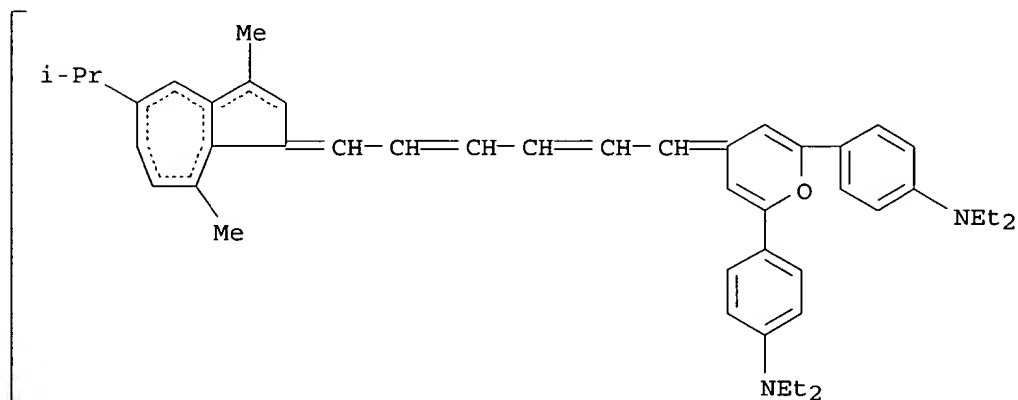
CN Azulenylium, 1-[6-[2,6-bis[4-(diethylamino)phenyl]-4H-pyran-4-ylidene]-2,4-hexadienylidene]-1,?-dihydro-3,8-dimethyl-5-(1-methylethyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 121600-91-7

CMF C46 H53 N2 O

PAGE 1-A



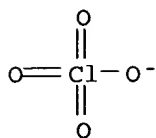
PAGE 1-B



CM 2

CRN 14797-73-0

CMF Cl O4



RN 121600-99-5 CAPLUS

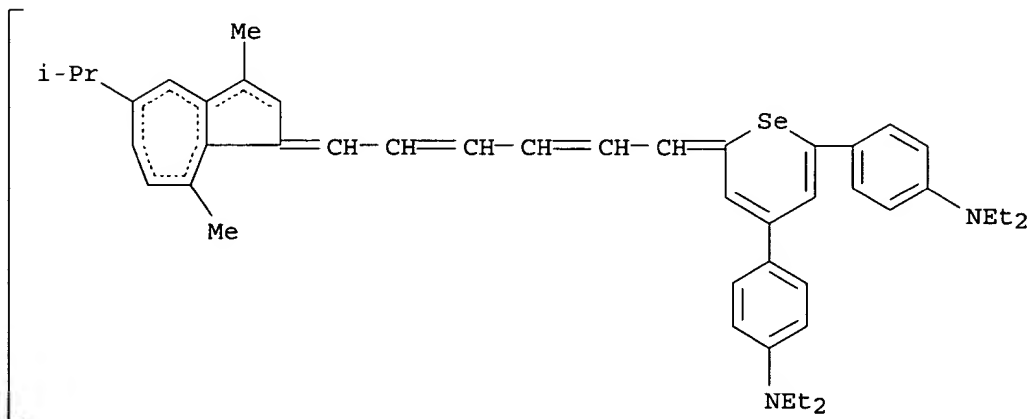
CN Azulenylium, 1-[6-[4,6-bis[4-(diethylamino)phenyl]-2H-selenin-2-ylidene]-2,4-hexadienylidene]-1,?-dihydro-3,8-dimethyl-5-(1-methylethyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 121600-98-4

CMF C46 H53 N2 Se

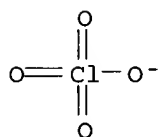
PAGE 1-A



PAGE 1-B

1+

CM 2

CRN 14797-73-0  
CMF Cl 04

L49 ANSWER 39 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1989:448215 CAPLUS  
 DOCUMENT NUMBER: 111:48215  
 TITLE: Optical recording medium containing diazulenium salt  
 INVENTOR(S): Oguchi, Yoshihiro; Santoh, Tsuyoshi  
 PATENT ASSIGNEE(S): Canon K. K., Japan  
 SOURCE: Eur. Pat. Appl., 75 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 295144	A1	19881214	EP 1988-305358	19880610
EP 295144	B1	19930317		
R: DE, FR, GB				
JP 63309497	A2	19881216	JP 1987-145305	19870612
JP 08013572	B4	19960214		
JP 63312186	A2	19881220	JP 1987-146975	19870615
JP 08018461	B4	19960228		
US 4921780	A	19900501	US 1988-204255	19880609
PRIORITY APPLN. INFO.:			JP 1987-145305	A 19870612
			JP 1987-146975	A 19870615



GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB An optical recording medium comprises an organic thin film containing an azulenium salt of the formula I or II [R1-R14 = H, halogen, organic residue; any 2 adjacent substituents may form a fused ring; A = an organic residue]. The recording layer optionally contains an aminium salt compound. The recording material is suitable for recording with a semiconductor laser for an optical disk or an optical card. Thus, an organic recording layer contained III which produced records with a low noise level.

IT 121590-43-0 121606-06-2

RL: TEM (Technical or engineered material use); USES (Uses)  
(optical recording medium containing)

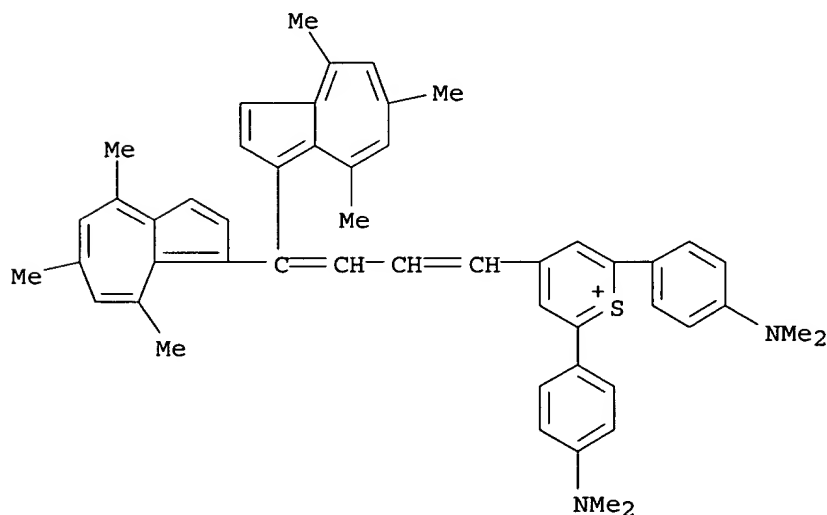
RN 121590-43-0 CAPLUS

CN Thiopyrylium, 4-[4,4-bis(4,6,8-trimethyl-1-azulenyl)-1,3-butadienyl]-2,6-bis[4-(dimethylamino)phenyl]-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 121590-42-9

CMF C51 H51 N2 S

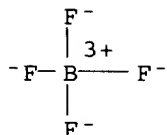


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



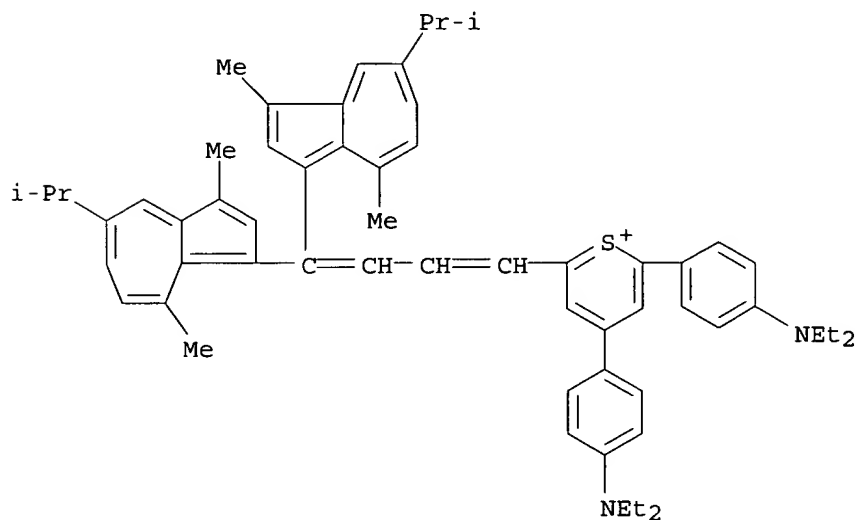
RN 121606-06-2 CAPLUS

CN Thiopyrylium, 2-[4,4-bis[3,8-dimethyl-5-(1-methylethyl)-1-azulenyl]-1,3-butadienyl]-4,6-bis[4-(diethylamino)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 121606-05-1

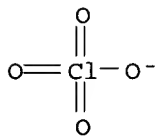
CMF C59 H67 N2 S



CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 40 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:105179 CAPLUS

DOCUMENT NUMBER: 110:105179

TITLE: Optical recording medium containing organic dye

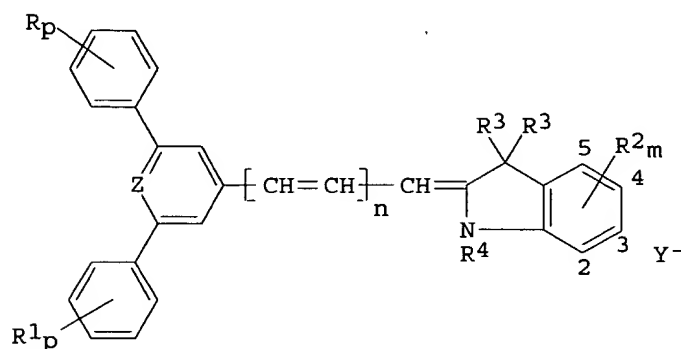
INVENTOR(S): Sato, Tsutomu; Sakaeda, Tatsuya; Ichinose, Keiko

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63185682	A2	19880801	JP 1987-16177	19870128
PRIORITY APPLN. INFO.:			JP 1987-16177	19870128
OTHER SOURCE(S):	MARPAT	110:105179		

GI



I

AB An optical recording medium is composed of a substrate bearing directly or via a undercoating a recording layer and, if necessary, a protecting overcoating, where the recording layer contains a dye represented by I [R-R<sub>2</sub> = H, halo, OH, CO<sub>2</sub>H, amino, alkyl, alkoxy; R<sub>3</sub> = Me, Et; R<sub>4</sub> = alkyl; Z = O, S, Se, Te; Y = acid anion; m, p = 1-4; n = 1, 2]. The medium has high recording speed and storage stability and is capable of rerecording. Thus, I (R = R<sub>1</sub> = H; R<sub>2</sub> = 4-Cl; R<sub>4</sub> = Me; Z = O; n = 2; Y = ClO<sub>4</sub>) was spin-coated from a 1,2-dichloroethane solution on a poly(Me methacrylate) substrate bearing a leading groove with pitch 1.6 μm, half width 0.3 μm, and depth 900 Å to form a 700 Å thick recording layer. Recording and reading out of information on the layer were made by a 790 nm semiconductor laser operated at a frequency of 0.5 MHz, scanning rate of 1.5 m/s, and power of 2.5 mW and 0.2 mW for recording and reading, resp. to show a carrier to noise (C/N) ratio of 54 dB. A forced preservation of the medium at 60° and 90% relative humidity for 2000 h led to lowering of C/N ratio and surface reflection index of 1 and 0.02, resp.

IT 119082-50-7

RL: TEM (Technical or engineered material use); USES (Uses)  
 (optical recording materials containing)

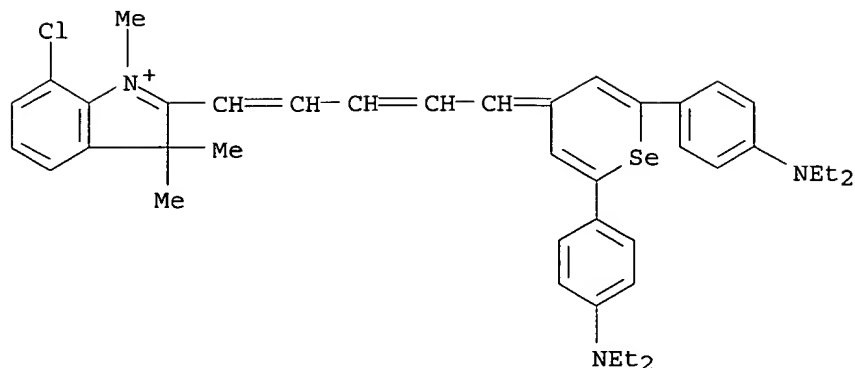
RN 119082-50-7 CAPLUS

CN 3H-Indolium, 2-[5-[2,6-bis[4-(diethylamino)phenyl]-4H-selenin-4-ylidene]-1,3-pentadienyl]-7-chloro-1,3,3-trimethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 119082-49-4

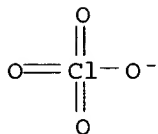
CMF C41 H47 Cl N3 Se



CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 41 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1988:187854 CAPLUS  
 DOCUMENT NUMBER: 108:187854  
 TITLE: Optical filter compositions  
 INVENTOR(S): Ukai, Toshinao; Okada, Hisashi; Hayashi, Koichi  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62187301	A2	19870815	JP 1986-29622	19860213
PRIORITY APPLN. INFO.:			JP 1986-29622	19860213

GI For diagram(s), see printed CA Issue.

AB Comps. with improved lightfastness, useful for optical filters, contain  $\geq 1$  dyes of formula I [R = (un)substituted) alkyl, CN, acyl, (un)substituted aryl; R1 = (un)substituted alkyl; R2 = (un)substituted aryl, heterocyclic group; Z as required to form a 5- or 6-membered ring; X = anion; m = 0, 1, 2; n = 0, 1; p = 1, 2]. A composition of cellulose triacetate 170, (PhO)<sub>3</sub>PO 10, CH<sub>2</sub>Cl<sub>2</sub> 800, MeOH 160, and 2,6-bis[2-[4-(dimethylamino)phenyl]vinyl]-4-[(3-ethyl-2(3H)-benzothiazolylidene)methyl]pyrylium perchlorate 0.4 part was cast on a

metal support to give a 25-μ optical filter, which absorbed light of 400-800 nm.

IT 105845-75-8

RL: USES (Uses)

(cellulose triacetate compns. containing, for optical filters)

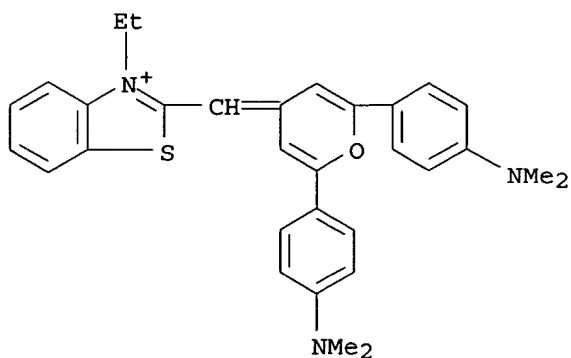
RN 105845-75-8 CAPLUS

CN Benzothiazolium, 2-[[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene]methyl]-3-ethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 105845-74-7

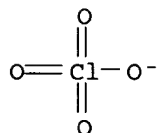
CMF C31 H32 N3 O S



CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 42 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1987:556353 CAPLUS

DOCUMENT NUMBER: 107:156353

TITLE: Pyrylocyanines. 23. Pyrylo-2-carbocyanines with substituents in the heterocyclic moieties

AUTHOR(S): Boiko, I. I.; Derevyanko, N. A.; Ishchenko, A. A.; Markina, T. A.; Tolmachev, A. I.

CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR

SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1986), (12), 1607-13

CODEN: KGSSAQ; ISSN: 0453-8234

DOCUMENT TYPE: Journal

LANGUAGE: Russian

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Sym. pyrylium trimethine dyes (I; R = H, OMe, OEt, Me, F, Cl, Br, NO<sub>2</sub>) and asym. pyryl indolinium trimethine dyes (II) were prepared and the effect of substituents on absorption band position and width was determined. NO<sub>2</sub> substituents caused a hypsochromic shift in II. All other substituents resulted in a bathochromic shift in both I and II. MeO, EtO, Me, and F substituents led to narrowing of the absorption band and to increased intensity and asymmetry of the band. Quantum chemical calcns. were discussed with respect to donor and acceptor properties of the substituents and prediction of spectral properties.

IT 110673-33-1P 110673-47-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (dye, preparation and spectral properties of)

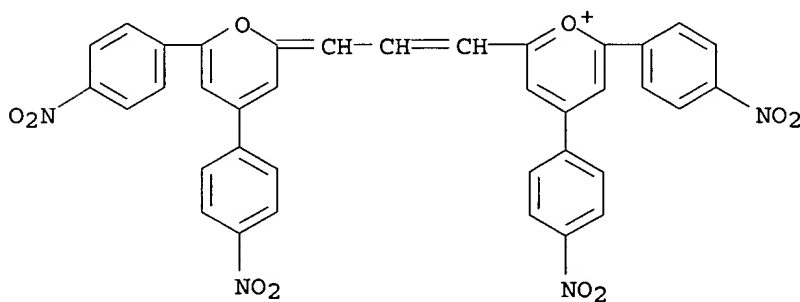
RN 110673-33-1 CAPLUS

CN Pyrylium, 2-[3-[4,6-bis(4-nitrophenyl)-2H-pyran-2-ylidene]-1-propenyl]-4,6-bis(4-nitrophenyl)-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 110673-32-0

CMF C37 H23 N4 O10

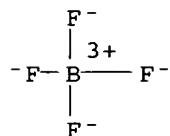


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



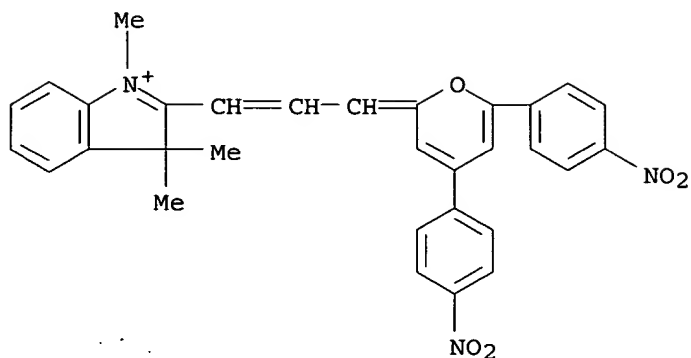
RN 110673-47-7 CAPLUS

CN 3H-Indolium, 2-[3-[4,6-bis(4-nitrophenyl)-2H-pyran-2-ylidene]-1-propenyl]-1,3,3-trimethyl-, tetrafluoroborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 110673-46-6

CMF C31 H26 N3 O5

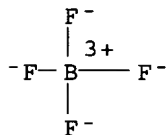


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



L49 ANSWER 43 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1987:186328 CAPLUS  
 DOCUMENT NUMBER: 106:186328  
 TITLE: Light-sensitive photographic element  
 INVENTOR(S): Ukai, Toshinao; Okada, Hisashi; Takei, Haruo  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61167940	A2	19860729	JP 1985-8765	19850121
PRIORITY APPLN. INFO.:			JP 1985-8765	19850121

OTHER SOURCE(S): CASREACT 106:186328

GI For diagram(s), see printed CA Issue.

AB A photog. element comprising a substrate, Ag-halide emulsion layer(s) and

other layer(s) has  $\geq 1$  layer containing  $\geq 1$  spectral sensitizer I  
 (n = 0, 1; m = 0, 1, 2; R = alkyl; R1 = aryl, heterocyclic group; A = 5-  
 or 6-membered heterocyclic ring (condensed ring may be included); X =  
 anion; P = 1, 2; P = 1 when intramol. salt is formed). Thus, a  
 Ag(Br,Cl,I)-gelatin emulsion (Br/Cl/I = 29.5/70/0.5 in molar ratio,  
 S-sensitized) containing dye I (A = benzothiazolyl; R = Et; n = 0; m = 1; R1 =  
 P-diethylaminophenyl; X- = ClO<sub>4</sub>; P = 2) ( $8 + 10^{-5}$  mol/Kg emulsion)  
 and other additives was coated on a film substrate. The obtained material  
 showed spectral sensitivity between 530-750 nm with the maximum at 630-640  
 nm.

IT 105845-75-8

RL: TEM (Technical or engineered material use); USES (Uses)  
 (photog. spectral sensitizer)

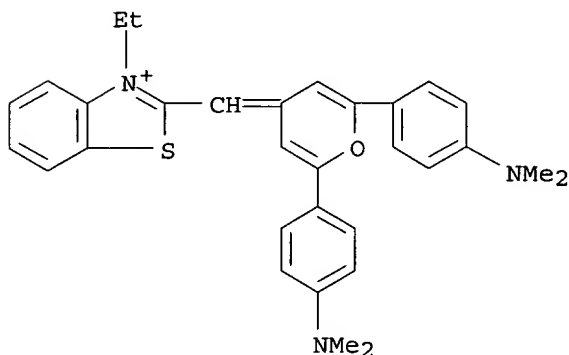
RN 105845-75-8 CAPLUS

CN Benzothiazolium, 2-[[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-  
 ylidene]methyl]-3-ethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 105845-74-7

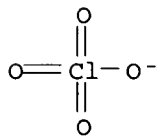
CMF C31 H32 N3 O S



CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 44 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1987:19996 CAPLUS  
 DOCUMENT NUMBER: 106:19996  
 TITLE: Methine dyes  
 INVENTOR(S): Ukai, Toshinao; Okada, Hisashi  
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan



SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61138666	A2	19860626	JP 1984-261402	19841211
JP 04005069	B4	19920130		

PRIORITY APPLN. INFO.: JP 1984-261402 19841211

GI For diagram(s), see printed CA Issue.

AB Methine dyes were prepared having the general formula I (n = 0, 1; m = 0, 1, 2; R = (un)substituted alkyl; R1 = (un)substituted aryl, heteroaryl; Z = nonmetallic atom group needed to complete 5- or 6-membered heterocycle; X- = anion; p = 1 (in case of inner salt), 2]. Thus, 3-ethyl-2-[(2,6-dimethyl-4H-pyran-4-ylidene)methyl]benzothiazolium p-toluenesulfonate was treated with p-Me2NC6H4CHO in the presence of NH4OAc in EtOH at 100° for 60 min under reflux to obtain 32% brown II, λ<sub>max</sub> (MeOH) 614 nm, ε<sub>max</sub> (MeOH) 4.90 + 104.

IT 105845-75-8P

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (preparation of)

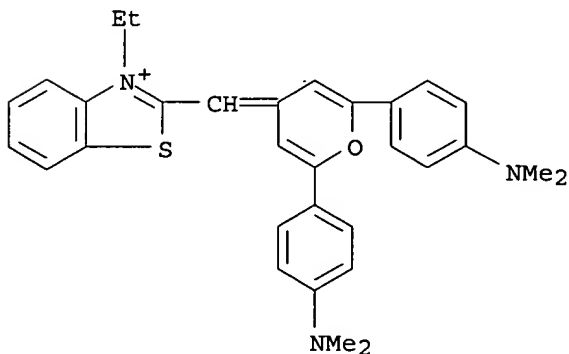
RN 105845-75-8 CAPLUS

CN Benzothiazolium, 2-[[2,6-bis[4-(dimethylamino)phenyl]-4H-pyran-4-ylidene)methyl]-3-ethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 105845-74-7

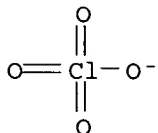
CMF C31 H32 N3 O S



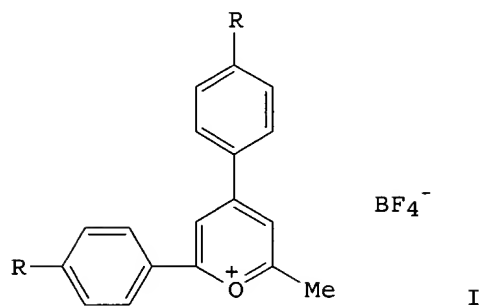
CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 45 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1985:220699 CAPLUS  
 DOCUMENT NUMBER: 102:220699  
 TITLE: Synthesis of 2-methyl-4,6-diarylpyrylium  
 tetrafluoroborates  
 AUTHOR(S): Markina, T. A.; Boiko, I. I.  
 CORPORATE SOURCE: USSR  
 SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1985), (2),  
 173-6  
 CODEN: KGSSAQ; ISSN: 0453-8234  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 OTHER SOURCE(S): CASREACT 102:220699  
 GI



AB The title compds. I (R = H, Me, OH, OMe, OEt, OCHMe2, Ph, Cl, Br, NO2) were prepared in 19.3-46.3% yields by condensation of 4'-RC6H4COMe (II) with Ac2O in the presence of BF3.OEt 2 h at reflux. The optimum mol ratios for the reaction were II:Ac2O:BF3.Et2O (2:4:1.4).

IT **96683-08-8P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

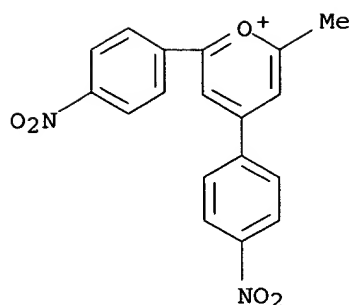
RN 96683-08-8 CAPLUS

CN Pyrylium, 2-methyl-4,6-bis(4-nitrophenyl)-, tetrafluoroborate(1-) (9CI)  
 (CA INDEX NAME)

CM 1

CRN 47455-01-6

CMF C18 H13 N2 O5

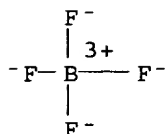


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



L49 ANSWER 46 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:80261 CAPLUS

DOCUMENT NUMBER: 102:80261

TITLE: Ethynologs of triphenylmethane dyes. II. Synthesis of pyrylium salts from trisubstituted 1,4-pentadiyn-3-ols with perchloric acid

AUTHOR(S): Nakatsuji, Shinichi; Nakashima, Kenichiro; Yamamura, Kimiaki; Akiyama, Shuzo

CORPORATE SOURCE: Fac. Pharm. Sci., Nagasaki Univ., Nagasaki, 852, Japan

SOURCE: Tetrahedron Letters (1984), 25(45), 5143-6

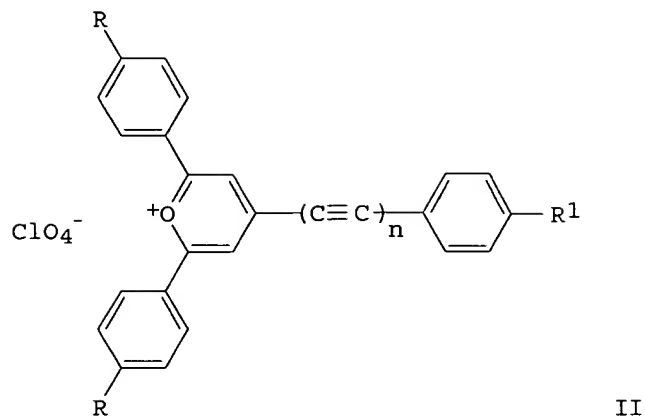
CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 102:80261

GI



AB Treatment of (p-RC<sub>6</sub>H<sub>4</sub>C.tplbond.C)<sub>2</sub>C(OH)(C.tplbond.C)<sub>n</sub>C<sub>6</sub>H<sub>4</sub>R<sub>1</sub>-p (I; n = 0, 1; R = Me<sub>2</sub>N, MeO, Me, Cl, H; R<sub>1</sub> = H, Me<sub>2</sub>N) with HClO<sub>4</sub> in C<sub>6</sub>H<sub>6</sub>-EtOH gave II (n, R, R<sub>1</sub> as defined) rather than the expected perchlorate of I. The mechanism of II formation is briefly discussed.

IT 94665-96-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and spectra of)

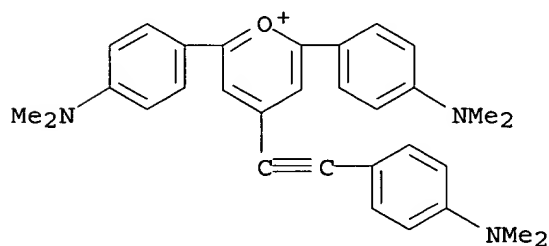
RN 94665-96-0 CAPLUS

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-[[4-(dimethylamino)phenyl]ethynyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 94665-95-9

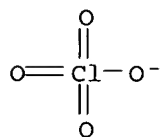
CMF C31 H32 N3 O



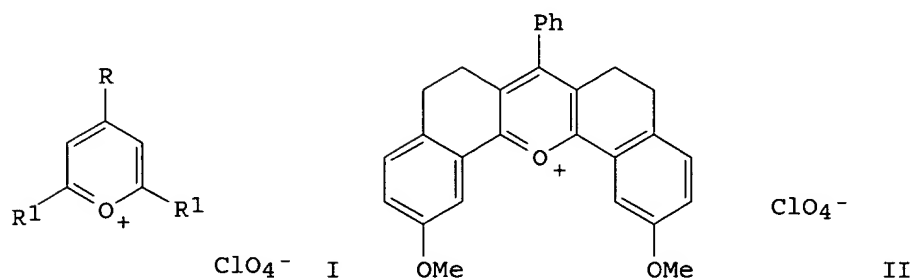
CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 47 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1977:422957 CAPLUS  
 DOCUMENT NUMBER: 87:22957  
 TITLE: Esters in the synthesis of pyrylium salts  
 AUTHOR(S): Luk'yanov, S. M.; Etmetchenko, L. N.; Koblik, A. V.;  
 Rakina, O. A.; Dorofeenko, G. N.  
 CORPORATE SOURCE: Rostov. Gos. Univ., Rostov, USSR  
 SOURCE: Zhurnal Organicheskoi Khimii (1977), 13(2), 287-90  
 CODEN: ZORKAE; ISSN: 0514-7492  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 GI

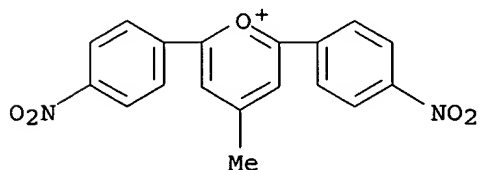


AB Reaction of  $\text{R}_1\text{COME}$  [ $\text{R}_1 = \text{Ph}$ ,  $p\text{-O}_2\text{NC}_6\text{H}_4$ ,  $p\text{-BrC}_6\text{H}_4$ , 4-biphenyl, 3,4-( $\text{MeO}$ ) $2\text{C}_6\text{H}_3$ ] with  $\text{RCH}_2\text{OAc}$  ( $\text{R} = \text{Me}$ ,  $\text{Pr}$ ,  $\text{Me}_2\text{CH}$ ,  $\text{Ph}$ ,  $\text{PhCH}_2$ ) in the presence of  $\text{Ph}_3\text{C}+\text{ClO}_4^-$  gave pyryliums I. A mechanism via  $\text{RCH}+\text{OAc}$  was suggested to explain I formation. II was prepared in a similar manner.  
 IT **63098-16-8P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 63098-16-8 CAPLUS  
 CN Pyrylium, 4-methyl-2,6-bis(4-nitrophenyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 63098-15-7

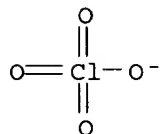
CMF C18 H13 N2 O5



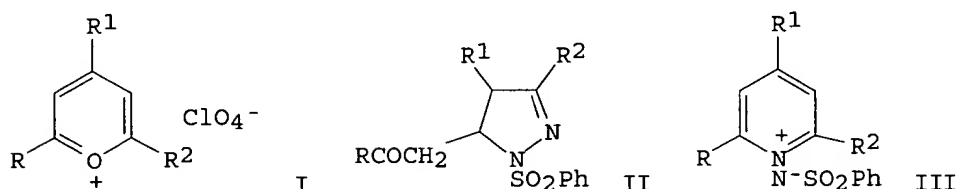
CM 2

CRN 14797-73-0

CMF Cl 04



L49 ANSWER 48 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1976:421010 CAPLUS  
 DOCUMENT NUMBER: 85:21010  
 TITLE: Electron deficient heteroaromatic ammonioamidates, VIII. The synthesis of N-(pyridinio)benzenesulfonamidates by ring transformation of (1-phenylsulfonyl-2-pyrazolin-5-yl)methyl ketones  
 AUTHOR(S): Lempert-Sreter, M.; Lempert, K.  
 CORPORATE SOURCE: Dep. Org. Chem., Eotvos Lorand Univ., Budapest, Hung.  
 SOURCE: Acta Chimica Academiae Scientiarum Hungaricae (1976), 88(2), 185-90  
 CODEN: ACASA2; ISSN: 0001-5407  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB Reaction of pyryliums I (R, R1, R2 given; Me, m-O2NC6H4, m-O2NC6H4; Me, p-O2NC6H4, p-O2NC6H4; Ph, Ph, p-O2NC6H4; Ph, Ph, p-BrC6H4) and PhSO2NHNH2 gave pyrazolines (II; R, R1, R2 given; Ph, Ph, p-O2NC6H4; Ph, Ph, p-BrC6H4; p-BrC6H4, Ph, Ph) or mixts. of II and pyridiniosulfonamidates III (R, R1, R2 given; Me, m-O2NC6H4, m-O2NC6H4; Me, p-O2NC6H4, p-O2NC6H4). When II were treated with acids a variety of products (depending on nature of substituents), e.g., I, III and pyrazoles, were obtained. Alkaline treatment of II (R = Me, R1 = R2 = p-O2NC6H4) gave the resp. III. Some I were prepared; e.g., I (R = Me, R1 = R2 = m-O2NC6H4) was prepared by treating m-O2NC6H4COMe in Ac2O with 70% HClO4.

IT 18374-72-6 59548-17-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with benzenesulfonyl hydrazide)

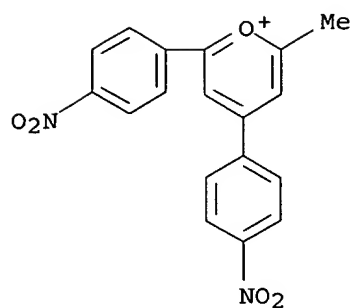
RN 18374-72-6 CAPLUS

CN Pyrylium, 2-methyl-4,6-bis(4-nitrophenyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 47455-01-6

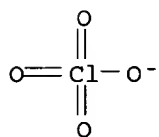
CMF C18 H13 N2 O5



CM 2

CRN 14797-73-0

CMF Cl O4



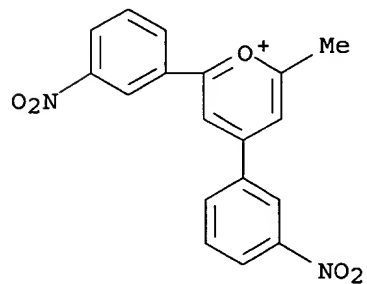
RN 59548-17-3 CAPLUS

CN Pyrylium, 2-methyl-4,6-bis(3-nitrophenyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 59548-16-2

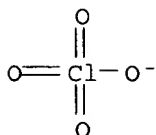
CMF C18 H13 N2 O5



CM 2

CRN 14797-73-0

CMF Cl O4



L49 ANSWER 49 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1968:29529 CAPLUS

DOCUMENT NUMBER: 68:29529

TITLE: Synthesis of pyrylium salts and pyridines by acylation  
of some aliphatic-aromatic ketones

AUTHOR(S): Dorofeenko, G. N.; Demidenko, E. I.; Krivun, S. V.

CORPORATE SOURCE: Rostovsk.-na-Donu Gos. Univ., Rostov-on-Don, USSR

SOURCE: Izvestiya Vysshikh Uchebnykh Zavedenii, Khimiya i  
Khimicheskaya Tekhnologiya (1967), 10(3), 304-7  
CODEN: IVUKAR; ISSN: 0579-2991

DOCUMENT TYPE: Journal

LANGUAGE: Russian

GI For diagram(s), see printed CA Issue.

AB Ten new pyrylium perchlorate salts were prepared by acylation and  
condensation of a series of aliphatic-aromatic ketones with an acid  
anhydride in the presence of HClO<sub>4</sub>, the conversion of 6 of the salts to  
the corresponding substituted pyridines was made with NH<sub>3</sub> derivs. For  
example, I [Ar = 3,4-(MeO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, R = Me] is prepared from 3,4-(MeO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>Ac  
dissolved in Ac<sub>2</sub>O, by dropwise addition of 70% HClO<sub>4</sub> while cooling, then  
holding 12 hrs. at room temperature and filtering and washing. Pyridines are  
prepared from pyrylium perchlorates by dissolving in excess concentrated  
NH<sub>4</sub>OH, or

treating with NH<sub>4</sub>OAc in AcOH. The following I were prepared (R, Ar, m.p., %  
yield, m.p. and % of pyridine derivative given): Me, 3,4-(MeO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>,  
256°, 15, 113°, 80; Me, 2,5-(MeO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 222.5°, 14,  
111°, 80; Me, 3,4-(EtO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 251°, 10, -, -; Me, 4-BrC<sub>6</sub>H<sub>4</sub>,  
279°, 13, 135°, 71; Me, 4-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>, 261°, 14,  
244°, 80; Me, 4-PhC<sub>6</sub>H<sub>4</sub>, 271°, 22, 193°, 50; Me,  
α-naphthyl, 255°, 10, 127°, 43; Et, Ph, 259°,  
65, -, -; Pr, Ph, 225°, 50, -, -; Pr, 4-MeOC<sub>6</sub>H<sub>4</sub>, 175°, 32,  
-, -. Higher yields (23-35%) of the 2nd-5th compds. were obtained by  
heating 1 hr. at 95-100° vs. 12 hrs. at room temperature

IT 18374-72-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 18374-72-6 CAPLUS

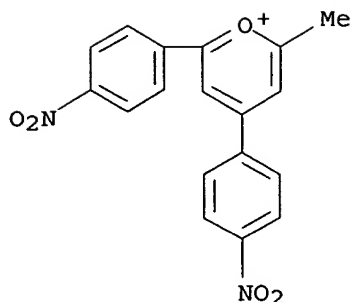
CN Pyrylium, 2-methyl-4,6-bis(4-nitrophenyl)-, perchlorate (9CI) (CA INDEX  
NAME)

CM 1

CRN 47455-01-6

CMF C18 H13 N2 O5

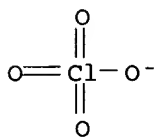




CM 2

CRN 14797-73-0

CMF Cl 04



L49 ANSWER 50 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1967:2435 CAPLUS

DOCUMENT NUMBER: 66:2435

TITLE: New syntheses of pyran nuclei from  
acylmethylenetriphenylphosphoranes

AUTHOR(S): Strzelecka, Helena

CORPORATE SOURCE: Univ. Paris, Paris, Fr.

SOURCE: Annales de Chimie (Paris, France) (1966), 1(5/6),  
201-20

CODEN: ANCPAC; ISSN: 0151-9107

DOCUMENT TYPE: Journal

LANGUAGE: French

GI For diagram(s), see printed CA Issue.

AB cf. CA 59, 12746c. Thermal decomposition of  $\text{Ph}_3\text{P:CHCOR}$  (I, R = Ph) (II) with diazo ketones  $\text{R}'\text{COCHN}_2$  (III,  $\text{R}' = \text{Ph}$ ) (IV) gave 60-100% yields of the pyran (V, R =  $\text{R}' = \text{Ph}$ ) (VI). Verification of a suggested mechanism led to extension of the method to include variously substituted furans. Under the catalytic action of the phosphorane, III undergoes a Wolff rearrangement to the ketene  $\text{R}'\text{CH:C:O}$  and by a Wittig reaction with the phosphorane gives an allenic ketone  $\text{R}'\text{CH:C:CHCOR}$ . Addition of a 2nd mole of phosphorane produces an unstable phosphobetaine  $\text{R}'\text{CH:C-(CH:COR)CP+(:CRO-Ph)}_3$  which eliminates  $\text{Ph}_3\text{PO}$  and forms the acetylenic ketone  $\text{R}'\text{CH:C(CH}_2\text{COR)C:CR}$ , yielding the pyran through enolization and condensation. The diazo ketones were replaceable by acid chlorides  $\text{R}'\text{CH}_2\text{COCl}$  in the reaction with I provided an extra mol. of I was provided to allow for the dehydrochlorination of the acid chloride. Unlike acid chlorides, anhydrides give only C-acylated products of phosphoranes and  $(\text{PhCH}_2\text{CO})_2\text{O}$  would also react with II to give VI. Preparation according to Newman and Beal (CA 45, 6171g) gave 90-100% IV, m.  $48^\circ$  (petroleum ether), and 85% III ( $\text{R}' = \text{p-BrC}_6\text{H}_4$ ), m.  $127^\circ$  (Et<sub>2</sub>O-petroleum ether). Modifications of the method of Ramirez and Dershowitz (CA 51,

11271h), yielded II, m. 189° (C6H6-petroleum ether), and I (R = Me, p-BrC6H4, p-O2NC6H4), m. 206° (C6H6-petroleum ether), 200° (C6H6), 180-2° (C6H6). I (2 moles) and III (1 mole) refluxed in isoamyl ether or xylene 1-2 hrs. to complete evolution of N and the residue on evaporation in vacuo refluxed in 5 vols. alc., the cooled mixture filtered, and the yellow precipitate purified by recrystn. or chromatography on Al2O3 from C6H6 yielded V (R, R', m.p. (solvent), % yield,  $\nu$  in cm. <sup>-1</sup>, and  $\lambda$  in  $\mu$  given): Ph, Ph, 140° (alc.), 55-60, 1667, 355; Ph, p-BrC6H4, 195° (alc.), 50, 1666, 367; p-BrC6H4, Ph, 204° (alc.-C6H6), 61, 1664, 360; p-BrC6H4, p-BrC6H4, 248° (alc.-C6H6), 56, 1667, 370; p-O2NC6H4, Ph, 302° (C5H5N), 79, 1660, -. The same compds. were similarly produced from R'CH2COCl and 3 molar equivs. of I by refluxing 2-3 hrs. in xylene, evaporating the filtered

solution in

vacuo, and isolating the product as above. (PhCH2CO)2O (2.5 g., m. 71°) and 11.41 g. II refluxed 20 hrs. in dry xylene and the residue on evaporation treated with 50 ml. alc. yielded 85% VI, m. 140°. The structure of V was established by oxidative degradation. V (1 g.) in 100 ml. anhydrous Me2CO stirred at 20° with KMnO4, the mixture stirred 48 hrs., filtered and the residue washed with boiling H2O, the filtrate and washings acidified with excess H2SO4 and the acid, R'CO2H filtered off, the filtrate evaporated, and the pyrones (VII) recrystd. yielded 60-70% VII (R = Ph), VII (R = p-BrC6H4), m. 285° (alc.). V treated with acids gave the corresponding 2,6-diaryl-4-aryl-methylpyrylium salts (VIII). V (1 g.) in 30 ml. AcOH shaken 15 min. with 1 ml. 65-70% HClO4 and the Et2O-washed precipitate recrystd. gave the perchlorates VIII (R, R', m.p. (decomposition) (AcOH),  $\nu$  in cm. <sup>-1</sup>, and  $\lambda$  in  $\mu$  (solvent) given): Ph, Ph, 220°, 1639 and 1528, 390 (alc.); p-BrC6H4, p-BrC6H4, 250°, -, -; Ph, (CH2)9Me, 166° (no decomposition), -, -; Ph, p-BrC6H4, 235°, 1634 and 1520, 399 (CHCl3); p-BrC6H4, Ph, 303°, 1635 and 1511, 422 (CHCl3). Treatment of the salts with 1% aqueous NaOH, 1% aqueous KOH, aqueous Na2CO3, or H2NCH2CO2H in the cold

retransformed

the salts to V. Me(CH2)10COCl (4.37 g., b20 143-5°) and 22.82 g. II refluxed 3 hrs. in 100 ml. dry xylene and the mixture filtered from 7.2 g. precipitated PPh3HCl, the filtrate and C6H6 washings evaporated and the

residue taken

up in 100 ml. anhydrous Et2O, the filtered solution evaporated and the residue chromatographed on 100 g. neutral Al2O3 eluted with C6H6-petroleum ether and the product isolated (5% yield) as HClO4 salt VIII [R = Ph, R' = (CH2)9Me], m. 166°, showing intense blue fluorescence. To show the heterocyclic character of the O atom, V and VIII were treated with NH4OAc in AcOH or (NH4)2CO3 in alc. to give the corresponding pyridines (IX). V (1 g.) in 30 ml. AcOH refluxed 2-3 hrs. with NH4OAc and the colorless solution diluted with H2O gave a quant. yield of IX, similarly produced from VIII, using either NH4OAc-AcOH or (NH4)2CO3-alc. IX were purified through the picrates, by chromatography in CHCl3 on Al2O3 and elution of the liberated IX (R, R', m.p./solvent,  $\nu$  in cm. <sup>-1</sup>, and m.p./solvent of picrate given): Ph, Ph, 76°/alc.-H2O, 2914, 2846, 1427, 180°/alc.-MeNO2; p-BrC6H4, Ph, 174°/MeOH, 2914, 2851, 1431, -; p-BrC6H4, 183°/alc.-C6H6, 2917, 2850, 1438, -; p-O2NC6H4, Ph, 276°/CHCl3, -, -; Ph, p-BrC6H4, 109°/alc., 2917, 2850, 1430, 199°/alc.-MeNO2. To show the presence of an active CH2 in the cation of VIII substitution with pyrone and HC(OEt)3 to give pyrylocyanines was effected. VIII (R = R' = Ph) and an equivalent amount of

VII

(R = Ph) boiled 1 hr. in Ac2O and the washed and dried product crystallized from AcOH gave 79% lustrous green bronze pyrylocyanine (X), m. 284°, giving blue solns. VIII (R = R' = Ph) (0.423 g.) and 1 ml.

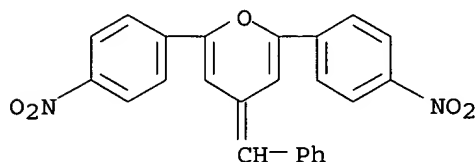
$\text{HC(OEt)}_3$  in 5 ml. AcOH containing 3 ml. Ac<sub>2</sub>O and 1 ml. C<sub>5</sub>H<sub>5</sub>N refluxed 1 hr. and the AcOH-washed product dried yielded lustrous coppery pyrylocyanine (XI), m. 295° (19:1 AcOH-MeNO<sub>2</sub>). The above exptl. data permitted establishment of the balance of the reaction as:  $\text{PhCOCHN}_2 + 2\text{Ph}_3\text{:CHCOPh} \rightarrow \text{VI} + 2\text{Ph}_3\text{PO} + \text{N}_2$ . To show the formation of pyran from an allenic ketone, BzCH:C:CHBz (XII) was condensed with VI to give the acylmethylenepyrans (XIII). XII (2.48 g.) in 30 ml. xylene added dropwise in 1 hr. to 3.8 g. VI in 30 ml. boiling xylene and the mixture refluxed 1 hr., the residue on evaporation diluted with Et<sub>2</sub>O and the filtrate evaporated, the residue transformed to the picrate, m. 188° (AcOH), and the picrate chromatographed in CHCl<sub>3</sub> on basic Al<sub>2</sub>O<sub>3</sub> yielded 28% XIII (R = Ph) (XIV), m. 160° (alc. or C<sub>6</sub>H<sub>12</sub>),  $\nu$  1660 cm.<sup>-1</sup>,  $\lambda$  412 m $\mu$  (log  $\epsilon$  4.53); the pyrylium perchlorate (XV) m. 220° (AcOH),  $\nu$  1695, 1635 cm.<sup>-1</sup>,  $\lambda$  406 m $\mu$  (log  $\epsilon$  4.46); the pyrylium picrate m. 188° (AcOH or 19:1 alc.-MeNO<sub>2</sub>). XV (1 g.) refluxed 3 hrs. in 10 ml. AcOH containing excess NH<sub>4</sub>OAc and the mixture poured into 100 ml. H<sub>2</sub>O, extracted with CHCl<sub>3</sub> and the residue on evaporation converted to the picrate, chromatographed in CHCl<sub>3</sub> on neutral Al<sub>2</sub>O<sub>3</sub> and the eluate evaporated gave 2,6-diphenyl-4-phenacylpyridine, m. 137°. XIII (R = p-BrC<sub>6</sub>H<sub>4</sub>) (XVI), m. 164° (alc.),  $\nu$  1660 cm.<sup>-1</sup>, was prepared similarly to XIV but chromatographed directly since the perchlorate and picrate are decomposed in alc. or AcOH to give the pyran. XVI refluxed 3 hrs. with NH<sub>4</sub>OAc in AcOH and the colorless solution diluted with H<sub>2</sub>O gave 2-phenyl-4-(p-bromophenacyl)-6-phenylpyridine, m. 186°. Condensation of XV with the pyrone (VII, R = Ph) gave 97% lustrous brown pyrylocyanine, C<sub>42</sub>H<sub>29</sub>ClO<sub>7</sub>, m. 305° (AcOH). Similar condensation of the perchlorate (XV) (0.451 g.) with HC(OEt)<sub>3</sub> yielded 74% lustrous golden brown pyrylocyanine, C<sub>51</sub>H<sub>35</sub>ClO<sub>8</sub>, m. 315° (19:1 AcOH-MeNO<sub>2</sub>). The less accessible dibenzoyl allene (XII) can be replaced by  $\beta$ -oxo esters in the reaction with I. II (80 millimoles) and 40 millimoles BzCH<sub>2</sub>CO<sub>2</sub>Et refluxed 10 hrs. in 100 ml. dry xylene with continuous distillation of the alc. produced and the cooled mixture filtered, the residue on evaporation refluxed with 5 vols. 95% alc., and the solution kept 12 hrs. at 20° gave 3.62 g. yellow pyran (XIV), m. 160°. The filtrate treated with 10 g. picric acid and the washed and dried precipitate taken up in 50 ml. CHCl<sub>3</sub>, the solution chromatographed on 100 g. Al<sub>2</sub>O<sub>3</sub> and eluted with 250 ml. CHCl<sub>3</sub> gave 0.48 g. XIV. Further elution with 500 ml. CHCl<sub>3</sub> and the residue on evaporation crystallized from C<sub>6</sub>H<sub>12</sub> gave 2.8 g. VII (R = Ph), m. 140°. II (80 millimoles) and 40 millimoles AcCH<sub>2</sub>CO<sub>2</sub>Et refluxed 12 hrs. in xylene with distillation of EtOH and the filtered solution evaporated in vacuo, the residue treated with 20 g. picric acid in 500 ml. alc. and filtered after 18 hrs. gave 2.99 g. picrates (XVII). The filtrate concentrated to 33% volume and filtered gave oily crystalline picrates (XVIII). XVII in 20 ml. CHCl<sub>3</sub> chromatographed on 100 g. Al<sub>2</sub>O<sub>3</sub> and eluted with 500 ml. CHCl<sub>3</sub>, the yellow oily product (1.8 g.) chromatographed on 60 g. Al<sub>2</sub>O<sub>3</sub> and eluted with 7:3 C<sub>6</sub>H<sub>6</sub>-Et<sub>2</sub>O gave 13% 2,6-diphenyl-4-acetylmethylenepyran, m. 110° (alc.), oxidized with KMnO<sub>4</sub> to the pyrone, and converted by HClO<sub>4</sub>-AcOH to the corresponding pyrylium perchlorate, m. 212° (AcOH-MeNO<sub>2</sub>). XVIII chromatographed in CHCl<sub>3</sub> on 100 g. basic Al<sub>2</sub>O<sub>3</sub> yielded the known 2-methyl-6-phenyl-4-pyrone (XIX), m. 85°. I (R = Me) (XX) (40 millimoles) and 20 millimoles AcCH<sub>2</sub>CO<sub>2</sub>Et refluxed 6 hrs. in 50 ml. PhMe with distillation of EtOH and the cooled mixture filtered, the residue on evaporation chromatographed on 50 g. Florisil and eluted with 500 ml. C<sub>6</sub>H<sub>6</sub>, the

solvent evaporated and the residue sublimed at 15 mm. gave 30-40% 2,6-dimethyl-4-pyrone, m. 132° (C<sub>6</sub>H<sub>12</sub>). XX (40 millimoles) and 20 millimoles BzCH<sub>2</sub>CO<sub>2</sub>Et refluxed 12 hrs. in 60 ml. PhMe with loss of EtOH and the cooled solution filtered, the solvent evaporated and the residue transformed into picrates, fractionated to give XX picrate and a more soluble picrate, taken up in CHCl<sub>3</sub> and passed through 50 g. neutral Al<sub>2</sub>O<sub>3</sub>, eluted with 500 ml. CHCl<sub>3</sub> and the product crystallized from C<sub>6</sub>H<sub>12</sub> gave XIX. A suggested step-by-step mechanism postulated thermal decomposition of the enolic form of the ester to give the α-oxo ketene, R'COCH:C:O and its addition to Ph<sub>3</sub>P:CHCOR to form a tautomeric Wittig betaine (XXI.dblharw.XXII). Loss of Ph<sub>3</sub>PO from XXII with formation of the acetylenic β-diketone RCOCH<sub>2</sub>COC:CR and consequent addition of the enolic hydroxyl to the triple bond would then lead to the pyrone. Elimination of Ph<sub>3</sub>PO from XXI to give the allenic diketone, R'COCH:C:CHCOR, and addition of another mol. of II would provide the 4-acylmethylene pyran. I and R'NCO stirred in molar proportions 3-5 hrs. in an inert solvent and isolation of the product gave addition products (XXIII) (R', R, % yield, and m.p./solvent given): Ph, Ph, 94, 240°/CHCl<sub>3</sub>-petroleum ether; Ph, Me, 92, 220°/CHCl<sub>3</sub>-C<sub>6</sub>H<sub>6</sub>; Ph, p-BrC<sub>6</sub>H<sub>4</sub>, 93, 255°/CHCl<sub>3</sub>-C<sub>6</sub>H<sub>6</sub>; α-C<sub>10</sub>H<sub>7</sub>, Ph, 82, 246°/MeCN; α-C<sub>10</sub>H<sub>7</sub>, Me, 95, 218°/CHCl<sub>3</sub>-C<sub>6</sub>H<sub>6</sub>; α-C<sub>10</sub>H<sub>7</sub>, p-BrC<sub>6</sub>H<sub>4</sub>, 94, 250°/CHCl<sub>3</sub>-C<sub>6</sub>H<sub>6</sub>. I (2 molar equivs.) and 1 molar equivalent R'NCO refluxed in dry xylene (100 ml. per 0.1 mole I) 4-5 hrs. and the cooled mixture filtered, the filtrate evaporated and the residue treated with picric acid in alc. the yellow precipitate boiled in alc. and the product converted to the base by chromatography in CHCl<sub>3</sub> over Al<sub>2</sub>O<sub>3</sub> or by refluxing in alc. KOH yielded the 2,6-diaryl-4-aryliminopyrones (XXIV) (R, R', % yield, m.p./solvent, m.p. perchlorate, and m.p. picrate given): Ph, Ph (XXV), 35, 165°/C<sub>6</sub>H<sub>14</sub>, 260°, 240°; p-BrC<sub>6</sub>H<sub>4</sub>, Ph, 36, 226°/alc.-C<sub>6</sub>H<sub>6</sub>, 303°, -; Ph, α-C<sub>10</sub>H<sub>7</sub>, 38, 189°/C<sub>6</sub>H<sub>12</sub>, -, 242°. The addition products XXIII and I in molar proportions refluxed in xylene 2 hrs. and the isolated products purified through the picrates also yielded XXIV. XXV (3.23 g.) and 5 g. p-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>Me refluxed 4 hrs. in MeCN and the colorless solution evaporated, the residue transformed into the perchlorate and crystallized from alc. gave XXV N-methyl perchlorate, m. 230°. The data cast doubt on the proposed formula, PhNHCOC(:PPh<sub>3</sub>)COPh for the addition of PhNCO to Ph<sub>3</sub>P:CHCOR. Decomposition of such a compound should lead to formation of PhNHCOC:CPh (XXVI), m. 127°, R<sub>f</sub> 0.53 (17:3 C<sub>6</sub>H<sub>6</sub>-petroleum ether on silica gel chromatoplates, visualized by iodine vapor). The addition compound was decomposed alone, in the presence of XXVI, and in the presence of XXVI and II. The decompns. showed absence of XXVI, no change in XXVI, and no change in XXVI, resp. The addition compound was best represented as the betaine (XXVII).

IT **13162-51-1P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 13162-51-1 CAPLUS

CN 4H-Pyran, 4-benzylidene-2,6-bis(p-nitrophenyl) - (8CI) (CA INDEX NAME)



L49 ANSWER 51 OF 51 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1957:90726 CAPLUS

DOCUMENT NUMBER: 51:90726

ORIGINAL REFERENCE NO.: 51:16467d-i,16468a-i,16469a-c

TITLE: Relation between color, constitution, solvents and chemical reactivity. Pyridine N.sym., Nsymmetric difference-betaines

AUTHOR(S): Dimroth, Karl; Arnoldy, Gunter; v. Eicken, Sigrid; Schiffler, Gerda

CORPORATE SOURCE: Univ. Marburg/Lahn, Germany

SOURCE: Ann. (1957), 604, 221-51

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The contradictory intensification of the deeply colored, supposedly tautomeric, anhydro bases ("phenylarylimines") (I) (2,4,6-R,R',R''C5H2N.sym.Nsymmetric differenceR') of Schneider (C.A. 36, 48209) in nonpolar solvents and other obscurities were reinvestigated chemically and physically since numerous non-tautomeric dyes show pronounced "solvatochromy" (cf. John, C.A. 42, 4498a) brought about by mesomeric shifts caused by reciprocal reaction with the solvent. The investigation showed that the I are not tautomeric systems of 2 or more compds. but rather individual compds. to which only the polar form of two constitutional structures can be assigned. Prepns. by the methods of Schneider and Seebach (C.A. 16, 1247), Diels and Alder (C.A. 21, 1813), or of Hopf and LeFevre (C.A. 33, 17306) gave variants of 2-methyl-4,6-diphenylpyrylium iodide. The corresponding 2-Et and 2-iso-Pr compds. were obtained by the usual acid condensation of PhCOMe (or PhCOCH:CMPh) with EtCO2H and with (Me2CHCO)2O. The FeCl4 salt of the tert-Bu derivative was prepared by the condensation of PhCOMe with

Me3CCOCH:CHPh

in the presence of Ac2O and FeCl3. Pyrylium salts, (2,4,6-RR'R''C5H2O)X (R,R',R'',X, m.p. given): Me, Ph, Ph, sulfoacetate, 204° (FeCl4, 175°; ClO4, 260°; Cl, 125°; Br, 194°; I, 222°); Et, Ph, Ph, I, 231° (FeCl4, 162°); iso-Pr, Ph, Ph, I, 224° (ClO4, 250-3°); Me3C, Ph, Ph, FeCl4, 171-2° (I, 249-51°); Me3C, Ph, Et, FeCl4, 139-40°; Ph, Me, Ph, FeCl4, 204° [I, 236-8° (decomposition)]; Ph, Ph, Ph, FeCl4, 277° (I, 221°; ClO4, 248-9°); Me, (p-MeOC6H4)2, FeCl4, 178° (sulfoacetate, 198°; I, 204°); Me, (m-O2NC6H4)2, ClO4, 218° (decomposition); Me, (p-O2NC6H4)2, ClO4, 260°. Treatment of the pyrylium salts with PhNHNH2 according to the procedures of Schneider, et al. (C.A. 18, 3381, 3382), gave the corresponding N-anilidopyridinium salts (II), [2,4,6-RR'R''C5H2N(NHR')]X (R,R',R'',R', X, and m.p. given): Me, Ph, Ph, Ph, I (IIa), -; Ph, Me, Ph, Ph, I, -; Et, Ph, Ph, Ph, I (IIb), 99-101°; iso-Pr, Ph, Ph, Ph, ClO4 (IIc), -; Me3C, Ph, Ph, Ph, ClO4 (IId), -; Ph, Ph, Ph, Ph, I (IIe), 161°; Me, (m-O2NC6H4)2, Ph, ClO4, 203°; Me, (p-O2NC6H4)2, Ph, ClO4, -; Me, Ph, Ph, p-O2NC6H4, I, 194°; Me, (p-MeOC6H4)2, p-O2NC6H4, I, 164°; Me, Ph, Ph, 2,4-(O2N)2C6H3, I, 166°; Me, (p-MeOC6H4)2, 2,4-(O2N)2C6H3, I, 185°; Me, Ph, Ph, o-MeC6H4, I, 172°; Me, Ph, Ph, 2,4-Cl2C6H3, Cl, 112°; Me, Ph, Ph, 2,4,6-Cl3C6H2, I, 185°. Treatment of 4.2 g. 2-tert-butyl-4,6-diphenylpyridinium perchlorate with 4 g. PhNHNH2 in 30 cc. alc. gave 2.3 g. pyranol hydrazine, m. 132-3°, converted by boiling in AcOH to IId. IIe was similarly prepared. In alkaline solution II gave the crystalline deeply colored I, generally readily soluble in organic solvents and formulated as pyridinium N+,N--betaines (Ia, Ib, Ic, Id, Ie

where R = Me, Et, CHMe<sub>2</sub>, CMe<sub>3</sub>, and Ph). The optical measurements of I were made on solns. in C<sub>6</sub>H<sub>6</sub> or on solns. of a weighed amount of II in alc. treated with NaOEt to liberate free I. The absorption spectra of the bases in the same solvent are very similar to one another, in agreement with the assigned inner-polar structure (base,  $\lambda$ C<sub>6</sub>H<sub>6</sub>, and  $\lambda$ MeOH in m $\mu$  given). Ia: 585, 430, 308; 545, 384, 299. Ib: 546; 545. Ic: 598, 438, 307; 555, 393, 299. Id: 605, 453, 307; 572, 390, 305. Ie: 620, 470, 315; 589, 424, 308. The lack of an isosbestic point and the complete shift of the curves in the 2 solvents indicate that solvatochromy causes only neg. mesomeric effects in the I. The absorption of Ia in different solvents show only shifts of similar curves to shorter or longer wave lengths and permit no doubt as to the N.sym., Nsymmetric difference-betaine nature of the I (solvent, dielectric constant, color of solution,  $\lambda$  in m $\mu$  given): C<sub>6</sub>H<sub>6</sub>, 2.2, blue, 588; PhMe, 2.3, blue, 5.85; PhCl, 5.6, blue, 578; Et<sub>2</sub>O, 4.5, blue, 578; C<sub>5</sub>H<sub>5</sub>N, 12, violet-blue (v-b), 574; CHCl<sub>3</sub>, 5.1, v-b, 572; iso-AmOH, 16, v-b, 564; Me<sub>2</sub>CO, 21.5, v-b, 564; MeCN, 39, v-b, 564; EtOH, 26, red-violet (r-v), 552; MeOH, 31, r-v, 538; 1:1 MeOH-H<sub>2</sub>O, 31, r-v, 520. A series of derivs. of Ia were prepared to study the influence of substituents in the attached benzene ring systems (R, R', R''). The effect of the electron-attracting O<sub>2</sub>N group on the position of the bands in the ultraviolet absorption spectra depends on its location in the rings (R'', R''') directly attached to the pyridine ring or in the anilido N-Ph group (R'). In the former position color intensification occurs, in the latter, color lightens (substituents in Ph groups at R', R'', R''',  $\lambda$ EtOH and color,  $\lambda$ C<sub>6</sub>H<sub>6</sub> and color, given): -, p-O<sub>2</sub>N, p-O<sub>2</sub>N, 592, blue, 617, blue; -, m-O<sub>2</sub>N, m-O<sub>2</sub>N, 567, blue-violet, 577, blue; -, -, -, 545, violet, 585, violet-blue; -, p-MeO, p-MeO, 544, red-violet, 586, violet-red; p-Cl, -, -, -, red-violet, -, violet-red; 2,4-Cl<sub>2</sub>, -, -, 524, red-violet, 560, violet; 2,4,6-Cl<sub>3</sub>, -, -, 472, red, 482, red-violet; p-O<sub>2</sub>N, -, -, 428, orange, 544, red; p-O<sub>2</sub>N, p-MeO, p-MeO, -, yellow-orange, -, orange-red; 2,4-(O<sub>2</sub>N)<sub>2</sub>, -, -, 387, lemon yellow, 395, range of yellow; 2,4-(O<sub>2</sub>N)<sub>2</sub>, p-MeO, p-MeO, -, greenish yellow, -, lemon yellow. All substituents increasing the polar character of the N:N N.sym. - Nsymmetric difference system lead to a decreasing mesomerism and to a shift to shorter wave length. The estimation with 5-10% accuracy of the rate of transformation of deeply colored derivs. of Ia to colorless compds. by measuring the elapsed time on heating in alc. solution at 78° related the thermal stability of the Ia derivs. to their constitution (substituents in rings at R', R'', R''', color in alc. solution, rearrangement time in min. given): 2,4,5-Me<sub>3</sub>, -, -, pure blue, 1.3; p-Me, m-Cl, m-Cl, pure blue, 1.35; 2,4-Me<sub>2</sub>, -, -, deep blue, 1.9; p-Me, p-Cl, p-Cl, prussian blue, 2.35; p-Me, p-Br, p-Br, cornflower blue, 2.65; 2,3-Cl<sub>2</sub>, -, -, cornflower blue, 4.0; 2,5-Me<sub>2</sub>, -, -, weak violet-tinged blue (w. v-t. b.), 5.0; -, m-Br, m-Br, w. v-t. b., 5.7; -, m-Cl, m-Cl, w. v-t. b., 6.7; p-Me, m-Me, m-Me, violet-blue, 6.8; o-Me, -, -, indigo blue, 7.75; p-Me, -, -, indigo blue, 7.85; o-Me, p-Me, p-Me, indigo blue, 8.4; m-Me, p-Cl, p-Cl, v-t. b., 9.75; p-Me, p-Me, p-Me, ultramarine, 10.0; -, p-Cl, p-Cl, v-t. b., 11.5; p-Me, p-MeO, p-MeO, v-t. b., 12.8; -, p-Br, p-Br, violet-blue, 15.0; 3,5-Me<sub>2</sub>, -, -, weak violet-blue, 19.0; m-Me, -, -, violet, 25.5 (Ia, violet, 32.0); m-Me, p-Me, p-Me, violet, 32.0°; -, m-Me, m-Me, violet, 35.5; o-Cl, -, -, violet-red, 36; p-Br, p-Br, p-Br, blue-violet, 48; -, p-Me, p-Me, red-violet, 53; -, p-MeO, p-MeO, red-violet, 87; p-Cl, -, -, red tinged violet, 95; p-Br, -, -, red-violet, 152; p-I, -, -, red-violet, 160; p-Br, p-Me, p-Me, violet-red, 185; p-Br, p-MeO, p-MeO, weak violet-red, 320; m-Cl, -, -, violet-tinged red, 370; p-O<sub>2</sub>N, -, -, orange, 10,000; p-O<sub>2</sub>N, p-MeO, p-MeO, yellow-orange, 33,000; 2,4-O<sub>2</sub>N, -, -, lemon yellow, not measurable; 2,4-(O<sub>2</sub>N)<sub>2</sub>, p-MeO, p-MeO, greenish-yellow, not measurable. A mechanism for the rearrangement of the deeply colored Ia derivs. to derivs. of

Schneider's colorless rearrangement products, 6,4,-2-R'',R'''C5H2N(CH2C6H4NH2-o) (III) by electron displacements and proton shifts is postulated. The dependence of the rate of rearrangement of Ia on the solvent was shown by measurements at 50° in an especially designed quartz hot-cuvette (Beckman spectrophotometer DK 2) (solvent, half life in min., rearrangement time in min. given): EtOH, 200, 1020; EtOH-C6H6, 150, 450; MeCN, 15, 60; C6H6, 7, 30. The stronger the polarization by the solvent, the longer is the time for rearrangement. On account of the slow rate of rearrangement of the relatively stable nitro derivs., several Ia derivs. were measured in C6H6 at 50° (substituents in rings at R', R'', R''', half life and end-values in min. given): -, p-MeO, p-MeO, 16, 73; 2,4-Cl 2, -, -, 60, 200; 2,4,6-Cl3, -, -, 65, 220; p-O2N, -, -, 840, 3 days (Ia, 7, 30). The rate of rearrangement (half life) of Ia in C6H6 at 40° is 29 min., 4 times slower than at 50°, so the influence of temperature is significant. The rate is independent of the over-all concentration and the reaction is of 1st order.

The

rearrangement in ultraviolet light is very much slower than in sunlight and is not uniform, suggesting the possibility of quite a different mechanism (substituents in rings at R', R'', R''', half life and end-values in min. of solns. in C6H6 irradiated by sunlight given): -, p-MeO, p-MeO, 4, 12; 2,6-Cl2, -, -, 3.5, 10; 2,4,6-Cl3, -, -, 1.2, 4; p-O2N, -, -, 0.5, 1.5 (Ia, 4, 12). I are not tautomeric mixts. but N.sym.-pyridinium-Nsymmetric difference-imine betaines with distinct mesomerism and a pronounced tendency to abandon the polar-ionoid state in the direction of a less strongly polar structure. All phys. and chemical phenomena are in agreement and support this conception, with the exception of the rearrangement by light which takes place, not through betainelike but radical-like intermediates.

IT 18374-72-6, Pyrylium, 2-methyl-4,6-bis[p-nitrophenyl]-, perchlorate 59548-17-3, Pyrylium, 2-methyl-4,6-bis[m-nitrophenyl]-, perchlorate (preparation of)

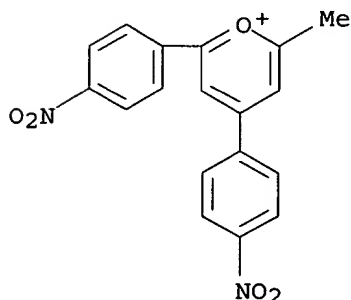
RN 18374-72-6 CAPLUS

CN Pyrylium, 2-methyl-4,6-bis(4-nitrophenyl)-, perchlorate (9CI) (CA INDEX NAME)

CM 1

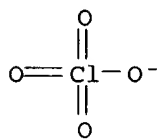
CRN 47455-01-6

CMF C18 H13 N2 O5



CM 2

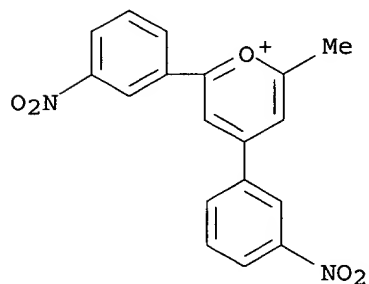
CRN 14797-73-0  
CMF Cl O4



RN 59548-17-3 CAPLUS  
CN Pyrylium, 2-methyl-4,6-bis(3-nitrophenyl)-, perchlorate (9CI) (CA INDEX NAME)

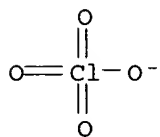
CM 1

CRN 59548-16-2  
CMF C18 H13 N2 O5

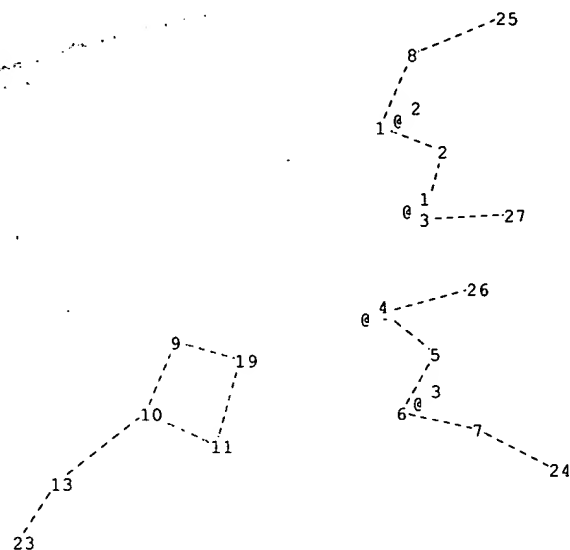


CM 2

CRN 14797-73-0  
CMF Cl O4







7   8   13   23   24   25   26   27

1 2 3 4 5 6 9 10 11 19

1-8 3-27 4-26 6-7 7-24 8-25 10-13 13-23

1-2   2-3   4-5   5-6   9-10   9-19   10-11   11-19

1-2 1-8 2-3 3-27 4-5 4-26 5-6 6-7 7-24 8-25 9-10 9-19 10-11 10-13 11-19  
13-23

containing 9 :

$$G2: [*1-*2], [*3-*4]$$

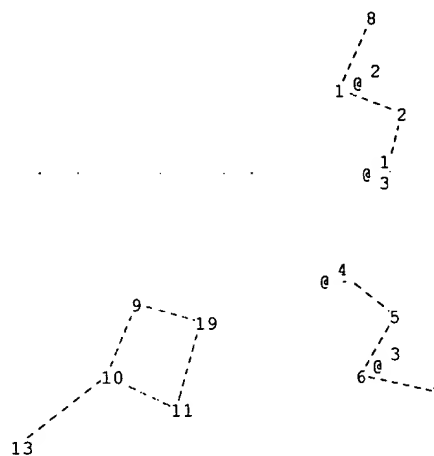
```
1:3 E exact RC ring/chain  2:2 E exact RC ring/chain  3:3 X maximum RC ring/chain
4:3 X maximum RC ring/chain  5:2 E exact RC ring/chain  6:3 E exact RC ring/chain
9:2 E exact RC ring/chain 10:3 E exact RC ring/chain
```

```

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 13:Atom 19:Atom 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS

```

**This Page Blank (uspto)**



7 8 13

1 2 3 4 5 6 9 10 11 19

1-8    6-7    10-13

1-2   2-3   4-5   5-6   9-10   9-19   10-11   11-19

1-2   1-8   2-3   4-5   5-6   6-7   9-10   9-19   10-11   10-13   11-19

containing 9 :

$$G2: [*1-*2], [*3-*4]$$

```

1:CLASS  2:CLASS  3:CLASS  4:CLASS  5:CLASS  6:CLASS  7:Atom  8:Atom  9:Atom 10:Atom
11:Atom 13:Atom 19:Atom

```

This Page Blank (uspto)

# search history

Clow 09\_931048

09/08/2005

=> d his full

(FILE 'HOME' ENTERED AT 13:37:37 ON 08 SEP 2005)

FILE 'REGISTRY' ENTERED AT 13:37:56 ON 08 SEP 2005  
ACT CLOW048STRK/A

-----  
L1 ( 2730)SEA ABB=ON PLU=ON SEC5/ESS  
L2 ( 1314092)SEA ABB=ON PLU=ON OC5/ESS  
L3 ( 76819)SEA ABB=ON PLU=ON SC5/ESS  
L4 ( 1054)SEA ABB=ON PLU=ON TEC5/ESS  
L5 ( 1391657)SEA ABB=ON PLU=ON L1 OR L2 OR L3 OR L4  
L6 ( 571105)SEA ABB=ON PLU=ON L5 AND NRS>2  
L7 STR  
L8 11587 SEA SUB=L6 SSS FUL L7  
-----

L9 STRUCTURE UPLOADED  
L10 50 SEA SUB=L8 SSS SAM L9  
D SCA

FILE 'STNGUIDE' ENTERED AT 13:40:05 ON 08 SEP 2005

FILE 'REGISTRY' ENTERED AT 14:08:28 ON 08 SEP 2005  
L11 STRUCTURE UPLOADED  
L12 50 SEA SUB=L8 SSS SAM L11  
D SCA

FILE 'STNGUIDE' ENTERED AT 14:10:01 ON 08 SEP 2005

FILE 'CAPLUS' ENTERED AT 14:12:56 ON 08 SEP 2005  
L13 26 SEA ABB=ON PLU=ON L12

FILE 'STNGUIDE' ENTERED AT 14:13:04 ON 08 SEP 2005

FILE 'REGISTRY' ENTERED AT 14:13:53 ON 08 SEP 2005  
L14 0 SEA SSS SAM L11

FILE 'STNGUIDE' ENTERED AT 14:14:30 ON 08 SEP 2005

FILE 'CAPLUS' ENTERED AT 14:21:20 ON 08 SEP 2005  
E US2001-931048/APPS  
L15 1 SEA ABB=ON PLU=ON US2001-931048/AP  
SEL RN

FILE 'REGISTRY' ENTERED AT 14:21:34 ON 08 SEP 2005  
L16 53 SEA ABB=ON PLU=ON (102989-94-6/BI OR 115772-64-0/BI OR  
1161-73-5/BI OR 1165-91-9/BI OR 1173-75-7/BI OR 13586-30-6/BI  
OR 14039-00-0/BI OR 144-62-7/BI OR 1484-88-4/BI OR 151921-86-7/  
BI OR 151921-87-8/BI OR 157137-74-1/BI OR 157137-82-1/BI OR  
157137-84-3/BI OR 165322-03-2/BI OR 165322-04-3/BI OR 165322-05  
-4/BI OR 165322-07-6/BI OR 165322-08-7/BI OR 165322-10-1/BI OR  
165322-11-2/BI OR 165323-26-2/BI OR 165323-27-3/BI OR 165323-28  
-4/BI OR 165323-30-8/BI OR 165323-31-9/BI OR 16536-30-4/BI OR  
16536-48-4/BI OR 19125-94-1/BI OR 19125-95-2/BI OR 26105-53-3/B  
I OR 26105-54-4/BI OR 26105-56-6/BI OR 26105-57-7/BI OR  
2930-37-2/BI OR 2970-29-8/BI OR 30431-54-0/BI OR 32728-10-2/BI  
OR 3495-60-1/BI OR 39659-58-0/BI OR 41494-44-4/BI OR 63072-26-4  
/BI OR 71537-33-2/BI OR 71537-34-3/BI OR 71549-42-3/BI OR  
7654-52-6/BI OR 7722-84-1/BI OR 79505-29-6/BI OR 79505-33-2/BI

OR 79505-36-5/BI OR 93523-73-0/BI OR 93524-00-6/BI OR 94665-94-8/BI)  
D SCA

FILE 'STNGUIDE' ENTERED AT 14:25:44 ON 08 SEP 2005

FILE 'CAPLUS' ENTERED AT 14:26:38 ON 08 SEP 2005

L17 118462 SEA ABB=ON PLU=ON L16  
D COST

FILE 'REGISTRY' ENTERED AT 14:27:51 ON 08 SEP 2005

L18 FILE 'STNGUIDE' ENTERED AT 14:27:54 ON 08 SEP 2005  
0 SEA ABB=ON PLU=ON L16 AND PYRYLIUM?/CN  
D COST

FILE 'REGISTRY' ENTERED AT 14:34:50 ON 08 SEP 2005

L19 18 SEA ABB=ON PLU=ON L16 AND PYRYLIUM?/CN  
L20 18 SEA ABB=ON PLU=ON L16 AND THIOPYRYLIUM?/CN

FILE 'CAPLUS' ENTERED AT 14:35:22 ON 08 SEP 2005

L21 489 SEA ABB=ON PLU=ON L19  
L22 374 SEA ABB=ON PLU=ON L20  
L23 779 SEA ABB=ON PLU=ON L21 OR L22  
L24 ANALYZE PLU=ON L23 1- RN : 13793 TERMS  
D  
D  
D L24  
D L24 11-

FILE 'REGISTRY' ENTERED AT 14:39:29 ON 08 SEP 2005

L25 1 SEA ABB=ON PLU=ON 1484-88-4  
D SCA  
L26 1 SEA ABB=ON PLU=ON 14039-00-0  
D SCA  
D SCA L19  
D SCA L20

FILE 'STNGUIDE' ENTERED AT 14:43:26 ON 08 SEP 2005

FILE 'REGISTRY' ENTERED AT 14:48:15 ON 08 SEP 2005

L27 E PYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-/CN  
3 SEA ABB=ON PLU=ON ("PYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-/CN OR "PYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, IODIDE"/CN OR "PYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, PERCHLORATE"/CN)  
L28 E THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-/CN  
4 SEA ABB=ON PLU=ON ("THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-/CN OR "THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, CHLORIDE"/CN OR "THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, IODIDE"/CN OR "THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, PERCHLORATE"/CN)

FILE 'CAPLUS' ENTERED AT 14:50:56 ON 08 SEP 2005

L29 3 SEA ABB=ON PLU=ON L27  
L30 3 SEA ABB=ON PLU=ON L28  
L31 4 SEA ABB=ON PLU=ON L29 OR L30  
L32 4 SEA ABB=ON PLU=ON L31 AND PY<2001  
L33 2 SEA ABB=ON PLU=ON L31 AND PY<1996

D COST  
L34 0 SEA ABB=ON PLU=ON L33 AND PY<1994  
FILE 'STNGUIDE' ENTERED AT 14:54:24 ON 08 SEP 2005  
FILE 'REGISTRY' ENTERED AT 14:59:18 ON 08 SEP 2005  
L35 17 SEA ABB=ON PLU=ON L19 NOT L25  
L36 17 SEA ABB=ON PLU=ON L20 NOT L26  
FILE 'CAPLUS' ENTERED AT 14:59:41 ON 08 SEP 2005  
L37 246 SEA ABB=ON PLU=ON L35  
L38 159 SEA ABB=ON PLU=ON L36  
FILE 'STNGUIDE' ENTERED AT 15:00:58 ON 08 SEP 2005  
D COST  
FILE 'REGISTRY' ENTERED AT 15:10:24 ON 08 SEP 2005  
L39 STRUCTURE UPLOADED  
L40 3 SEA SUB=L8 SSS SAM L39  
D SCA  
L41 3 SEA SSS SAM L39  
L42 3 SEA ABB=ON PLU=ON L40 OR L41  
FILE 'CAPLUS' ENTERED AT 15:12:38 ON 08 SEP 2005  
L43 1 SEA ABB=ON PLU=ON L42  
FILE 'STNGUIDE' ENTERED AT 15:12:46 ON 08 SEP 2005  
FILE 'REGISTRY' ENTERED AT 15:26:38 ON 08 SEP 2005  
L44 STRUCTURE UPLOADED  
L45 10 SEA SUB=L8 SSS SAM L44  
D SCA  
FILE 'CAPLUS' ENTERED AT 15:28:54 ON 08 SEP 2005  
L46 9 SEA ABB=ON PLU=ON L45  
L47 3 SEA ABB=ON PLU=ON L46 AND PY<1995  
FILE 'REGISTRY' ENTERED AT 15:30:12 ON 08 SEP 2005  
L48 204 SEA SUB=L8 SSS FUL L44  
SAVE TEMP L48 CLOWSTRQ/A  
FILE 'CAPLUS' ENTERED AT 15:33:23 ON 08 SEP 2005  
L49 51 SEA ABB=ON PLU=ON L48  
L50 28 SEA ABB=ON PLU=ON L49 AND PY<1996  
FILE 'REGISTRY' ENTERED AT 15:34:36 ON 08 SEP 2005  
SAVE TEMP L19 CLOW048OXRNS/A  
SAVE TEMP L20 CLOW048SURNS/A  
D COST FULL  
FILE 'CAPLUS' ENTERED AT 15:45:30 ON 08 SEP 2005  
L51 ANALYZE PLU=ON L50 1- RN : 788 TERMS  
D  
FILE 'REGISTRY' ENTERED AT 15:47:09 ON 08 SEP 2005  
FILE 'CAPLUS' ENTERED AT 15:47:13 ON 08 SEP 2005  
D STAT QUE L49  
D IBIB ABS HITSTR L49 1-51

FILE 'STNGUIDE' ENTERED AT 15:51:07 ON 08 SEP 2005  
D COST

L52 FILE 'CAPLUS' ENTERED AT 16:18:08 ON 08 SEP 2005  
4 SEA ABB=ON PLU=ON L31 AND L49

L53 FILE 'REGISTRY' ENTERED AT 16:18:51 ON 08 SEP 2005  
7 SEA ABB=ON PLU=ON L27 OR L28  
L54 ANALYZE PLU=ON L53 1- LC : 4 TERMS  
D  
L55 7 SEA ABB=ON PLU=ON L53 AND L48

L56 FILE 'TOXCENTER, USPATFULL' ENTERED AT 16:21:54 ON 08 SEP 2005  
4 SEA ABB=ON PLU=ON L53

FILE 'STNGUIDE' ENTERED AT 16:23:09 ON 08 SEP 2005

L57 FILE 'CAPLUS, TOXCENTER, USPATFULL' ENTERED AT 16:23:22 ON 08 SEP 2005  
54 DUP REM L49 L56 (1 DUPLICATE REMOVED)  
ANSWERS '1-51' FROM FILE CAPLUS  
ANSWER '52' FROM FILE TOXCENTER  
ANSWERS '53-54' FROM FILE USPATFULL

FILE 'REGISTRY' ENTERED AT 16:23:52 ON 08 SEP 2005

FILE 'TOXCENTER' ENTERED AT 16:24:02 ON 08 SEP 2005

FILE 'USPATFULL' ENTERED AT 16:24:08 ON 08 SEP 2005  
D STAT QUE L57

FILE 'CAPLUS, TOXCENTER, USPATFULL' ENTERED AT 16:25:09 ON 08 SEP 2005  
D IALL L57 52

FILE 'USPATFULL' ENTERED AT 16:25:09 ON 08 SEP 2005

FILE 'CAPLUS, TOXCENTER, USPATFULL' ENTERED AT 16:26:06 ON 08 SEP 2005  
D IBIB ABS HITSTR L57 53-54

FILE 'USPATFULL' ENTERED AT 16:26:07 ON 08 SEP 2005

FILE 'STNGUIDE' ENTERED AT 16:26:51 ON 08 SEP 2005

FILE HOME

FILE REGISTRY  
Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 7 SEP 2005 HIGHEST RN 862646-13-7  
DICTIONARY FILE UPDATES: 7 SEP 2005 HIGHEST RN 862646-13-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.



\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

FILE STNGUIDE  
FILE CONTAINS CURRENT INFORMATION.  
LAST RELOADED: Sep 2, 2005 (20050902/UP).

#### FILE CAPLUS

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 8 Sep 2005 VOL 143 ISS 11  
FILE LAST UPDATED: 7 Sep 2005 (20050907/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

#### FILE TOXCENTER

FILE COVERS 1907 TO 6 Sep 2005 (20050906/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TOXCENTER has been enhanced with new files segments and search fields. See HELP CONTENT for more information.

TOXCENTER thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2005 vocabulary. See <http://www.nlm.nih.gov/mesh/> and [http://www.nlm.nih.gov/pubs/techbull/nd04/nd04\\_mesh.html](http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html) for a description of changes.

FILE USPATFULL  
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 6 Sep 2005 (20050906/PD)  
FILE LAST UPDATED: 6 Sep 2005 (20050906/ED)  
HIGHEST GRANTED PATENT NUMBER: US6941576  
HIGHEST APPLICATION PUBLICATION NUMBER: US2005193458  
CA INDEXING IS CURRENT THROUGH 6 Sep 2005 (20050906/UPCA)  
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 6 Sep 2005 (20050906/PD)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2005  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2005

>>> USPAT2 is now available. USPATFULL contains full text of the <<<  
>>> original, i.e., the earliest published granted patents or <<<  
>>> applications. USPAT2 contains full text of the latest US <<<  
>>> publications, starting in 2001, for the inventions covered in <<<  
>>> USPATFULL. A USPATFULL record contains not only the original <<<  
>>> published document but also a list of any subsequent <<<  
>>> publications. The publication number, patent kind code, and <<<  
>>> publication date for all the US publications for an invention <<<  
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<  
>>> records and may be searched in standard search fields, e.g., /PN, <<<  
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<  
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<  
>>> enter this cluster. <<<  
>>> <<<  
>>> Use USPATALL when searching terms such as patent assignees, <<<  
>>> classifications, or claims, that may potentially change from <<<  
>>> the earliest to the latest publication. <<<

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

Additional references for the specific  
compound of claim 19b.

Clow 09\_931048

09/08/2005

(from TOXCENTER  
and USPATFULL)

=> file registry

FILE 'REGISTRY' ENTERED AT 16:23:52 ON 08 SEP 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 7 SEP 2005 HIGHEST RN 862646-13-7

DICTIONARY FILE UPDATES: 7 SEP 2005 HIGHEST RN 862646-13-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS  
for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> file toxcenter

FILE 'TOXCENTER' ENTERED AT 16:24:02 ON 08 SEP 2005

COPYRIGHT (C) 2005 ACS

FILE COVERS 1907 TO 6 Sep 2005 (20050906/ED)

This file contains CAS Registry Numbers for easy and accurate substance  
identification.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TOXCENTER has been enhanced with new files segments and search fields.  
See HELP CONTENT for more information.

TOXCENTER thesauri in the /CN, /CT, and /MN fields incorporate the  
MeSH 2005 vocabulary. See <http://www.nlm.nih.gov/mesh/> and  
[http://www.nlm.nih.gov/pubs/techbull/nd04/nd04\\_mesh.html](http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html) for a  
description of changes.

=> file uspatfull

FILE 'USPATFULL' ENTERED AT 16:24:08 ON 08 SEP 2005

CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 6 Sep 2005 (20050906/PD)  
 FILE LAST UPDATED: 6 Sep 2005 (20050906/ED)  
 HIGHEST GRANTED PATENT NUMBER: US6941576  
 HIGHEST APPLICATION PUBLICATION NUMBER: US2005193458  
 CA INDEXING IS CURRENT THROUGH 6 Sep 2005 (20050906/UPCA)  
 ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 6 Sep 2005 (20050906/PD)  
 REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2005  
 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2005

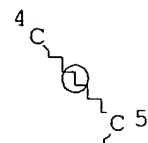
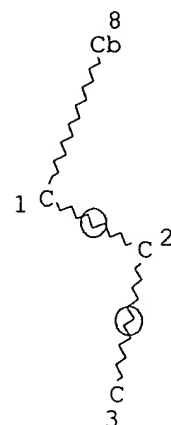
```
>>> USPAT2 is now available.  USPATFULL contains full text of the  <<<
>>> original, i.e., the earliest published granted patents or      <<<
>>> applications.  USPAT2 contains full text of the latest US      <<<
>>> publications, starting in 2001, for the inventions covered in   <<<
>>> USPATFULL.  A USPATFULL record contains not only the original  <<<
>>> published document but also a list of any subsequent           <<<
>>> publications.  The publication number, patent kind code, and   <<<
>>> publication date for all the US publications for an invention  <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<
>>> records and may be searched in standard search fields, e.g., /PN, <<<
>>> /PK, etc.                                                       <<<
```

```
>>> USPATFULL and USPAT2 can be accessed and searched together    <<<
>>> through the new cluster USPATALL.  Type FILE USPATALL to      <<<
>>> enter this cluster.                                           <<<
>>> Use USPATALL when searching terms such as patent assignees,    <<<
>>> classifications, or claims, that may potentially change from  <<<
>>> the earliest to the latest publication.                         <<<
```

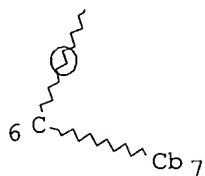
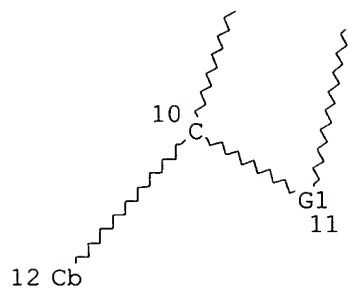
This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> d stat que L57
L1 (      2730)SEA FILE=REGISTRY ABB=ON  PLU=ON  SEC5/ESS
L2 (    1314092)SEA FILE=REGISTRY ABB=ON  PLU=ON  OC5/ESS
L3 (      76819)SEA FILE=REGISTRY ABB=ON  PLU=ON  SC5/ESS
L4 (      1054)SEA FILE=REGISTRY ABB=ON  PLU=ON  TEC5/ESS
L5 (    1391657)SEA FILE=REGISTRY ABB=ON  PLU=ON  L1 OR L2 OR L3 OR L4
L6 (      571105)SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 AND NRS>2
L7              STR
```

O 14 S 15 Se 16Te 17



Page 1-A



Page 2-A

VAR G1=14/15/16/17

VAR G2=1-9 3-11/4-9 6-11

NODE ATTRIBUTES:

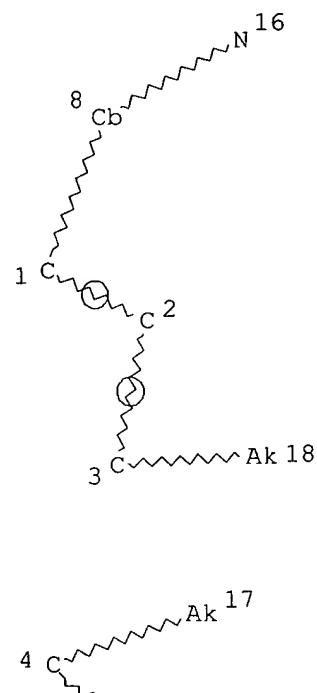
NSPEC	IS R	AT	1
NSPEC	IS R	AT	2
NSPEC	IS R	AT	3
NSPEC	IS R	AT	4
NSPEC	IS R	AT	5
NSPEC	IS R	AT	6
NSPEC	IS C	AT	7
NSPEC	IS C	AT	8
NSPEC	IS R	AT	9
NSPEC	IS R	AT	10
NSPEC	IS R	AT	11
NSPEC	IS C	AT	12
NSPEC	IS R	AT	13

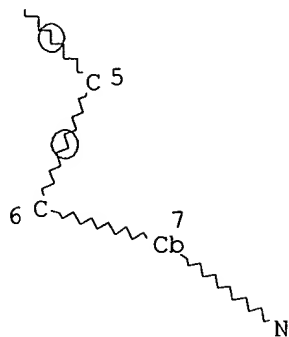
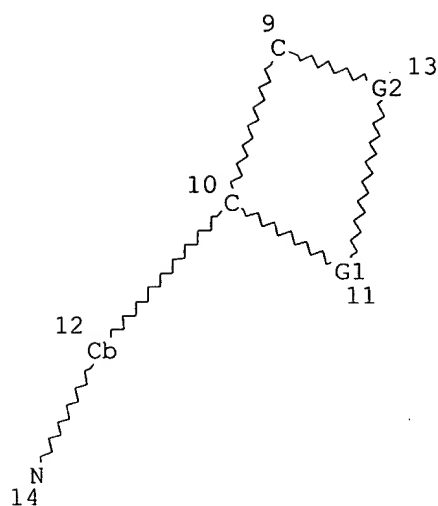
DEFAULT MLEVEL IS ATOM  
 MLEVEL IS CLASS AT 1 2 3 4 5 6  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC I  
 NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L8 11587 SEA FILE=REGISTRY SUB=L6 SSS FUL L7  
 L27 3 SEA FILE=REGISTRY ABB=ON PLU=ON ("PYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-"/CN OR "PYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, IODIDE"/CN OR "PYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, PERCHLORATE"/CN)  
 L28 4 SEA FILE=REGISTRY ABB=ON PLU=ON ("THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-"/CN OR "THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, CHLORIDE"/CN OR "THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, IODIDE"/CN OR "THIOPYRYLIUM, 2,6-BIS(4-(DIMETHYLAMINO)PHENYL)-4-METHYL-, PERCHLORATE"/CN)  
 L44 STR  
 O 19 S 20 Se 21Te 22





Page 2-A

15

Page 2-B

VAR G1=19/20/21/22

VAR G2=1-9 3-11/4-9 6-11

NODE ATTRIBUTES:

NSPEC	IS	R	AT	1										
NSPEC	IS	R	AT	2										
NSPEC	IS	R	AT	3										
NSPEC	IS	R	AT	4										
NSPEC	IS	R	AT	5										
NSPEC	IS	R	AT	6										
NSPEC	IS	C	AT	7										
NSPEC	IS	C	AT	8										
NSPEC	IS	R	AT	9										
NSPEC	IS	R	AT	10										
NSPEC	IS	R	AT	11										
NSPEC	IS	C	AT	12										
NSPEC	IS	R	AT	13										
NSPEC	IS	C	AT	14										
NSPEC	IS	C	AT	15										
NSPEC	IS	C	AT	16										
NSPEC	IS	C	AT	17										
NSPEC	IS	C	AT	18										
CONNECT	IS	E3	RC	AT	1									
CONNECT	IS	E2	RC	AT	2									
CONNECT	IS	X3	RC	AT	3									
CONNECT	IS	X3	RC	AT	4									
CONNECT	IS	E2	RC	AT	5									
CONNECT	IS	E3	RC	AT	6									
CONNECT	IS	E2	RC	AT	9									
CONNECT	IS	E3	RC	AT	10									
DEFAULT	MLEVEL	IS	ATOM											
MLEVEL	IS	CLASS	AT	1	2	3	4	5	6	14	15	16	17	18
DEFAULT	ECLEVEL	IS	LIMITED											

GRAPH ATTRIBUTES:

RSPEC I  
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L48 204 SEA FILE=REGISTRY SUB=L8 SSS FUL L44  
L49 (51) SEA FILE=CAPLUS ABB=ON PLU=ON L48  
L53 7 SEA FILE=REGISTRY ABB=ON PLU=ON L27 OR L28  
L56 4 SEA L53  
L57 (54) DUP REM L49 L56 (1 DUPLICATE REMOVED)

These SI references  
are already printed.

→ 3 additional  
references below (S4-SI=3)

=> diall L57 52

YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS, TOXCENTER, USPATFULL' - CONTINUE? (Y)/N:Y

L57 ANSWER 52 OF 54 TOXCENTER COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:224049 TOXCENTER

COPYRIGHT: Copyright 2005 ACS

DOCUMENT NUMBER: CA12405047614X

TITLE: Safe methods for inducing mutation in cells using  
heterocyclic ring compounds

AUTHOR(S): Yano, Tetsuya; Okamoto, Hisashi; Yamamoto, Nobuko;  
Kawaguchi, Masahiro

CORPORATE SOURCE: ASSIGNEE: Canon Kk

PATENT INFORMATION: JP 95250680 A2 3 Oct 1995

SOURCE: (1995) Jpn. Kokai Tokkyo Koho, 33 pp.  
CODEN: JKXXAF.

COUNTRY: JAPAN

DOCUMENT TYPE: Patent

FILE SEGMENT: CAPLUS

OTHER SOURCE: CAPLUS 1995:990819

LANGUAGE: Japanese

ENTRY DATE: Entered STN: 20011116

Last Updated on STN: 20020820

ABSTRACT:

A safe method for inducing mutation in microbial, plant, and animal cells using a combination of a heterocyclic ring compound and irradiation at 470-800 nm is disclosed. Synthesis of a variety of compound I (e.g., X=O; Y=ClO<sub>4</sub>; R<sub>6</sub>=CH<sub>3</sub>; R<sub>7</sub>=H; R<sub>8</sub>=Ph-N(CH<sub>3</sub>)<sub>2</sub>; R<sub>9</sub>=H; R<sub>10</sub>=Ph-N(CH<sub>3</sub>)<sub>2</sub>) was shown. The method was demonstrated using Ames test and mouse FM3A cells.

CLASSIFICATION CODE: 3-1

SUPPLEMENTARY TERMS: Miscellaneous Descriptors

heterocyclic ring compd mutation induction safety

REGISTRY NUMBER: 2930-31-6; 2930-44-1; 2970-29-8; 14039-00-0; 53971-76-9;  
60821-89-8; 90312-39-3; 90312-41-7; 92828-13-2;  
93523-73-0; 94665-94-8; 112015-34-6; 151921-86-7;  
151921-87-8; 157137-72-9; 157137-73-0; 157137-74-1;  
157137-75-2; 157137-76-3; 157137-77-4; 157137-78-5;  
157137-79-6; 157137-80-9; 157137-82-1; 157137-84-3;  
157137-86-5; 157137-88-7; 157137-90-1; 165321-49-3;  
165321-50-6; 165321-51-7; 165321-53-9; 165321-55-1;  
165321-56-2; 165321-58-4; 165321-59-5; 165321-60-8;  
165321-62-0; 165321-63-1; 165321-65-3; 165321-66-4;  
165321-68-6; 165321-69-7; 165321-80-2; 165321-81-3;  
165321-83-5; 165321-84-6; 165321-86-8; 165321-87-9;  
165321-89-1; 165321-90-4; 165321-92-6; 165321-93-7;  
165321-95-9; 165321-96-0; 165321-98-2; 165321-99-3;  
165322-01-0; 165322-02-1; 165322-03-2; 165322-04-3;



165322-07-6; 165322-08-7; 165322-13-4;  
 165322-14-5; 165322-19-0; 165322-20-3; 165322-25-8;  
 165322-26-9; 165322-31-6; 165322-32-7; 165322-37-2;  
 165322-38-3; 165322-43-0; 165322-44-1; 165322-49-6;  
 165322-50-9; 165322-55-4; 165322-56-5; 165322-61-2;  
 165322-62-3; 165322-67-8; 165322-68-9; 165322-73-6;  
 165322-74-7; 165322-79-2; 165322-80-5; 165322-85-0;  
 165322-86-1; 165322-91-8; 165322-92-9; 165322-97-4;  
 165322-98-5; 165323-03-5; 165323-04-6; 165323-09-1;  
 165323-10-4; 165323-15-9; 165323-16-0; 165323-21-7;  
 165323-22-8; 165323-26-2; 165323-28-4; 171611-64-6;  
 171611-65-7; 171611-67-9; 171611-68-0; 171611-70-4;  
 171611-71-5; 172894-49-4

=> d ibib abs hitstr L57 53-54

YOU HAVE REQUESTED DATA FROM FILE 'CAPLUS, TOXCENTER, USPATFULL' - CONTINUE? (Y)/N:y

L57 ANSWER 53 OF 54 USPATFULL on STN

ACCESSION NUMBER: 2002:213703 USPATFULL

TITLE: Process for detecting target nucleic acid, process for  
 quantifying the same, and pyrylium compound for  
 chemiluminescence analysis

INVENTOR(S): Okamoto, Tadashi, Yokohama-shi, JAPAN  
 Yamamoto, Nobuko, Isehara-shi, JAPAN

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002115079	A1	20020822
APPLICATION INFO.:	US 2001-931048	A1	20010817 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1997-943019, filed on 2 Oct 1997, GRANTED, Pat. No. US 6297008		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1996-262818	19961003
	JP 1996-262819	19961003
	JP 1996-262820	19961003
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	FITZPATRICK CELLA HARPER & SCINTO, 30 ROCKEFELLER PLAZA, NEW YORK, NY, 10112	
NUMBER OF CLAIMS:	185	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	10 Drawing Page(s)	
LINE COUNT:	2789	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a process for detecting or quantifying a target nucleic acid in a sample, the process comprising the steps of associating a chemiluminescent compound, capable of being associated with a double-stranded nucleic acid, with a double-stranded nucleic acid including the target nucleic acid, and detecting or measuring chemiluminescence derived from the chemiluminescent compound associated with the double-stranded nucleic acid. According to the process, the target nucleic acid in the sample can be highly sensitively detected, or precisely quantified.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 165322-07-6 165322-08-7 165322-10-1

165322-11-2

(chemiluminescent pyrylium compds. for detection of double-stranded nucleic acid formation in quant. hybridization)

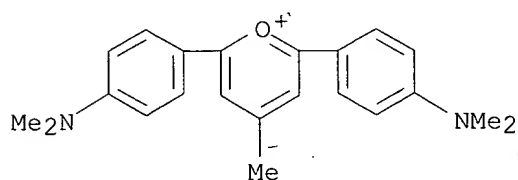
RN 165322-07-6 USPATFULL

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 165322-06-5

CMF C22 H25 N2 O

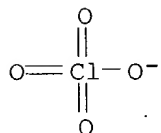


*read: 517 + 59  
+ dm 186*

CM 2

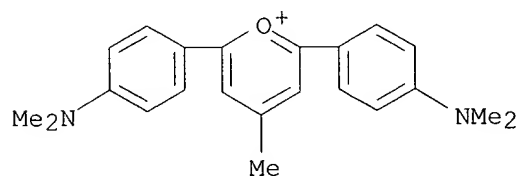
CRN 14797-73-0

CMF Cl O4



RN 165322-08-7 USPATFULL

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI) (CA INDEX NAME)

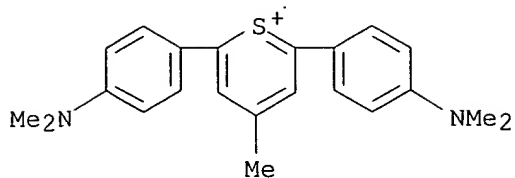
● I<sup>-</sup>

RN 165322-10-1 USPATFULL

CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate (9CI) (CA INDEX NAME)

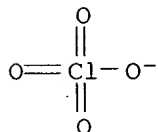
CM 1

CRN 165322-09-8  
CMF C22 H25 N2 S

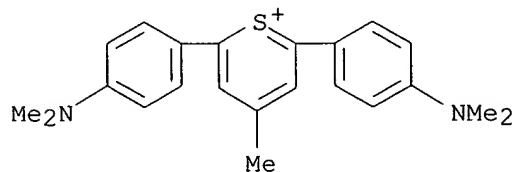


CM 2

CRN 14797-73-0  
CMF C1 O4



RN 165322-11-2 USPATFULL  
CN Thiopyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI)  
(CA INDEX NAME)

● I<sup>-</sup>

L57 ANSWER 54 OF 54 USPATFULL on STN

ACCESSION NUMBER: 2001:167896 USPATFULL

TITLE:

*current appl.*  
Process for detecting target nucleic acid, process for quantifying the same, and pyrylium compound for chemiluminescence analysis

INVENTOR(S):

Okamoto, Tadashi, Yokohama, Japan  
Yamamoto, Nobuko, Isehara, Japan

PATENT ASSIGNEE(S):

Canon Kabushiki Kaisha, Tokyo, Japan (non-U.S. corporation)

NUMBER

KIND

DATE

-----

PATENT INFORMATION: US 6297008 B1 20011002  
APPLICATION INFO.: US 1997-943019 19971002 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1996-262818	19961003
	JP 1996-262819	19961003
	JP 1996-262820	19961003
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Marschel, Ardin H. ✓	
LEGAL REPRESENTATIVE:	Fitzpatrick, Cella, Harper & Scinto	
NUMBER OF CLAIMS:	38	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	16 Drawing Figure(s); 10 Drawing Page(s)	
LINE COUNT:	2225	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides a process for detecting or quantifying a target nucleic acid in a sample, the process comprising the steps of associating a chemiluminescent compound, capable of being associated with a double-stranded nucleic acid, with a double-stranded nucleic acid including the target nucleic acid, and detecting or measuring chemiluminescence derived from the chemiluminescent compound associated with the double-stranded nucleic acid. According to the process, the target nucleic acid in the sample can be highly sensitively detected, or precisely quantified.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 165322-07-6 165322-08-7 165322-10-1

165322-11-2

(chemiluminescent pyrylium compds. for detection of double-stranded nucleic acid formation in quant. hybridization)

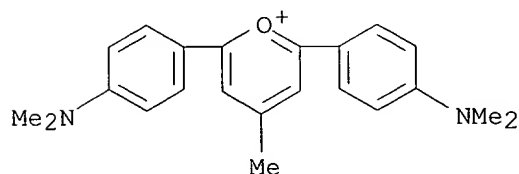
RN 165322-07-6 USPATFULL

CN Pyrylium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate (9CI)  
(CA INDEX NAME)

CM 1

CRN 165322-06-5

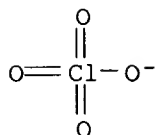
CMF C22 H25 N2 O



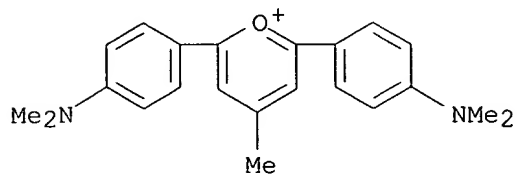
CM 2

CRN 14797-73-0

CMF C1 O4



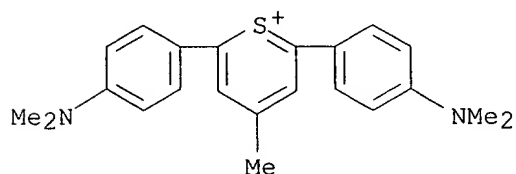
RN 165322-08-7 USPATFULL  
 CN Pyrlyium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI) (CA INDEX NAME)



RN 165322-10-1 USPATFULL  
 CN Thiopyrlyium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, perchlorate (9CI) (CA INDEX NAME)

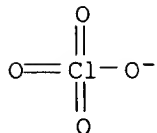
CM 1

CRN 165322-09-8  
 CMF C22 H25 N2 S



CM 2

CRN 14797-73-0  
 CMF Cl O4



RN 165322-11-2 USPATFULL  
 CN Thiopyrlyium, 2,6-bis[4-(dimethylamino)phenyl]-4-methyl-, iodide (9CI)

(CA INDEX NAME)

